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MUSICAL INSTRUMENTS IN THE

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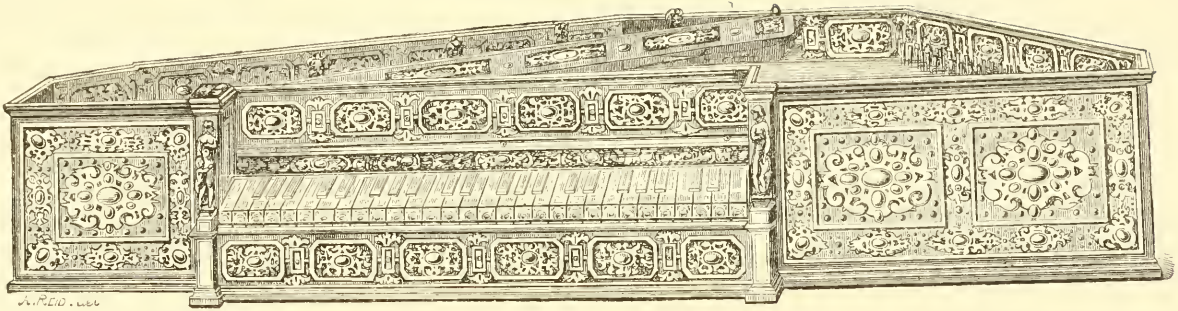

ITALIAN SPINET, Ornamented with Precious Stones.

Made by Annibale dei Rossi of Milan, in the year 1577. (*See page* 272.)

SCIENCE AND ART DEPARTMENT
OF THE COMMITTEE OF COUNCIL ON EDUCATION,
SOUTH KENSINGTON MUSEUM.

A

DESCRIPTIVE CATALOGUE

OF THE

MUSICAL INSTRUMENTS

IN THE

SOUTH KENSINGTON MUSEUM, London

Preceded by an Essay on the History of Musical Instruments.

BY CARL ENGEL.

SECOND EDITION.

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The Department of Science and Art is indebted to Mr. JOHN MURRAY *for the loan of Sixteen Woodcuts, illustrating the Ancient Egyptian and Assyrian Instruments.*

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INTRODUCTION.

MUSIC, in however primitive a ſtage of development it may be with ſome nations, is the moſt univerſally appreciated of the Fine Arts. The origin of Vocal muſic may be ſurmiſed to have been coeval with, if not antecedent to, that of language; and the conſtruction of muſical inſtruments evidently dates with the earlieſt inventions which ſuggeſted themſelves to human ingenuity. There exiſt even at the preſent day ſome ſavage tribes, in Auſtralia and South America, who, although they have no more than the five firſt numerals in their language, and are thereby unable to count the fingers of both hands together, nevertheleſs poſſeſs muſical inſtruments of their own contrivance, with which they accompany their ſongs and dances.

Wood, metal, and the hide of animals, are the moſt common ſubſtances uſed in the conſtruction of muſical inſtruments. In tropical countries bamboo, or ſome ſimilar kind of cane, and gourds, are eſpecially made uſe of for this purpoſe. Bone, horn, glaſs, pottery, ſlabs of ſonorous ſtone,—in fact, almoſt all vibrating matter has the ingenuity of man contrived to employ in producing muſic. The ſtrings of inſtruments are made of the hair of animals, of ſilk, the runners of creeping plants, the fibrous roots of certain trees, of cane, catgut (which implies not only the gut of the cat, but alſo of the goat, lamb, camel, and ſome other animals), metal, &c.

The mode in which individual nations or tribes are in the habit of embelliſhing their muſical inſtruments is ſometimes as characteriſtic as it is ſingular. The negroes in ſeveral diſtricts of Weſtern Africa affix to their drums human ſkulls. A war-trumpet of the king of Aſhantee, which was brought to England, is ſurrounded by human jawbones.

The Maories in New Zealand carve around the mouth-hole of their trumpets a figure intended, it is ſaid, to repreſent female lips. The materials for ornamentation chiefly employed by ſavages, are bright colours, beads, ſhells, graſſes, the bark of trees, feathers, ſtones, gilding, pieces of looking-glaſs inlaid like moſaic, &c. Uncivilized nations are ſure to conſider anything which is bright and glittering ornamental, eſpecially if it is alſo ſcarce. Captain Tuckey ſaw in Congo a negro inſtrument which was ornamented with part of the broken frame of a looking-glaſs, to which were affixed in a ſemicircle a number of braſs buttons with the head of Louis XVI. on them,—perhaps a relic of ſome French ſailor drowned near the coaſt years ago.

Again, muſical inſtruments are not unfrequently formed in the ſhape of certain animals. Thus, a kind of harmonicon of the Chineſe repreſents the figure of a crouching tiger. The Burmeſe poſſeſs a ſtringed inſtrument in the ſhape of an alligator. Even more groteſque are the imitations of various beaſts adopted by the Javaneſe. The natives of New Guinea have a ſingularly ſhaped drum, terminating in the head of a reptile. A wooden rattle repreſenting a bird is a favourite inſtrument of the Indians of Nootka Sound, North-weſtern America. In ſhort, not only the inner conſtruction of the inſtruments, and their peculiar quality of ſound, exhibit in moſt nations certain diſtinctive characteriſtics, but the ſame is alſo in great meaſure the caſe with their outward appearance.

An arrangement of the various kinds of muſical inſtruments in a regular order, beginning with that kind which is the moſt univerſally known, and progreſſing gradually to the leaſt uſual, gives the following reſults :—

Inſtruments of Percuſſion of indefinite ſonorouſneſs, or, in other words, pulſatile inſtruments which have not a ſound of a fixed pitch,—as the drum, rattle, caſtanets, &c.—are moſt univerſal.

Wind Inſtruments of the flute kind,—including pipes, whiſtles, flutes, Pandean pipes, &c.—are alſo to be found almoſt everywhere.

Much the ſame is the caſe with Wind Inſtruments of the trumpet kind. Theſe are often made of the horns, bones, and tuſks of animals ; but alſo frequently of vegetable ſubſtances, and of metal.

Inſtruments of Percuſſion of definite ſonorouſneſs are chiefly met with in China, Japan, Burmah, Siam, and Java. They not unfrequently contain a ſeries of tones produced by ſlabs of wood, or metal, which are beaten with a ſort of hammer, as our harmonicon is played.

Stringed Inſtruments without a finger-board, or any ſimilar contrivance which enables the performer to produce a number of different

tones on one ſtring, are generally found among nations whoſe muſical accompliſhments have emerged from the earlieſt ſtate of infancy. The ſtrings are twanged with the fingers or with a piece of wood, horn, metal, or any other ſuitable ſubſtance ſerving as a *plectrum;* or the ſtrings are made to vibrate by being beaten with a hammer, as our dulcimer is played.

Wind Inſtruments with *reeds*, *i.e.*, ſuch inſtruments as are blown through a ſingle or double piece of vibrating cane, ſtraw, or ſimilar ſubſtance,—like our hautboy, baſſoon, and clarinet,—are chiefly met with in European countries. They are, however, alſo conſtructed in ſeveral Aſiatic countries, in Egypt, the Barbary States, &c.

Stringed Inſtruments provided with a finger-board, on which different tones are producible on one ſtring by the performer ſhortening the ſame more or leſs,—as on the guitar, violin, &c.—are met with almoſt excluſively among nations in a ſomewhat advanced ſtage of muſical progreſs. Such as are played with a bow are the leaſt univerſal; they are, however, known to the Chineſe, Japaneſe, Hindus, Perſians, Arabs, and a few other nations, beſides thoſe of Europe and their deſcendants in extra-European countries.

Wind Inſtruments of the organ kind,—*i.e.*, ſuch as are conſtructed of a number of tubes which can be ſounded together by means of a common mouthpiece, or ſome ſimilar contrivance, and upon which therefore chords, and combinations of chords, or harmony, can be produced, — are comparatively of rare occurrence. Some intereſting ſpecimens of them exiſt in China, Japan, Laos, and Siam.

Beſides theſe various kinds of ſound-producing means employed in muſical performances, a few others, leſs widely diffuſed, could be pointed out, which are of a conſtruction not repreſented in any of our well known European ſpecimens. For inſtance, ſome extra-European nations have peculiar Inſtruments of Friction, which can hardly be claſſed with our Inſtruments of Percuſſion. Again, there are certain contrivances in which a number of ſtrings are cauſed to vibrate by a current of air, much as is the caſe with the Æolian harp; which might with equal propriety be conſidered either as ſtringed inſtruments, or as wind inſtruments. In ſhort, our uſual claſſification of all the various ſpecies into three diſtinct diviſions, viz., *Stringed Inſtruments*, *Wind Inſtruments*, and *Inſtruments of Percuſſion*, is not tenable if we extend our reſearches over the whole globe.

The collection deſcribed in the preſent catalogue contains ſeveral foreign inſtruments which cannot fail to prove intereſting to the

muſician. Recent inveſtigations have more and more elicited the fact that the muſic of every nation exhibits ſome diſtinctive characteriſtics which may afford valuable hints to him as a compoſer or performer. A familiarity with the popular ſongs of different countries is adviſable for him on account of the remarkable originality of the airs. They moſtly ſpring from the heart; hence the natural and true expreſſion, the delightful health and vigour by which they are generally diſtinguiſhed. Our more artificial compoſitions are, on the other hand, not unfrequently deficient in theſe charms, becauſe they often emanate from the fingers, or the pen, rather than from the heart. Howbeit, the predominance of expreſſive melody and effective rhythm over harmonious combinations, ſo uſual in the popular compoſitions of foreign nations, would alone ſuffice to recommend them to the careful attention of our modern muſicians.

The ſame may be ſaid with regard to the ſurpriſing variety in conſtruction and in manner of expreſſion prevailing in the popular ſongs and dance-tunes of different countries. Indeed, every nation's muſical effuſions exhibit a character peculiarly their own, with which the muſician would find it advantageous to familiarize himſelf.

Now, it will eaſily be underſtood that an acquaintance with the muſical inſtruments of a nation conveys a more correct idea than could otherwiſe be obtained of the characteriſtic features of the nation's muſical compoſitions. Furthermore, in many inſtances the conſtruction of the inſtruments reveals to us the nature of the muſical intervals, ſcales, modulations and ſuch like noteworthy facts. True, inquiries like theſe have hitherto not received from muſicians the attention which they deſerve. The adepts in moſt other arts are in this reſpect in advance. They are convinced that uſeful information may be gathered by inveſtigating the productions of art even of uncivilized nations, and by thus tracing the gradual progreſs of an art from its moſt primitive infancy to its higheſt degree of development. Perhaps the collection of inſtruments deſcribed in the following pages will in ſome meaſure contribute to eſtabliſh this conviction more univerſally alſo among the children of Jubal.

Again, from an examination of the muſical inſtruments of foreign nations, we may derive valuable hints for the improvement of our own inſtruments; or even for the invention of new ones. Several principles of conſtruction have thus been adopted by us from Eaſtern nations, For inſtance, the *free reed* uſed in the Harmonium, or "Orgue expreſſif," is an importation from China. The organ builder, Kratzenſtein, who lived in St. Peterſburg during the reign of Catharine II.,

happened to ſee the Chineſe inſtrument *cheng*, which is of this conſtruction, and it ſuggeſted to him, about the end of the laſt century, to apply the *free reed* to certain organ ſtops. At the preſent day, inſtruments of the harmonium claſs have become ſuch univerſal favourites in Weſtern Europe as almoſt to vie in popularity with the pianoforte.

Several other well-authenticated inſtances could be cited in which one inſtrument has ſuggeſted the conſtruction of another of a ſuperior kind. The prototype of our pianoforte was evidently the dulcimer, known at an early time to the Arabs and Perſians, who call it *ſantir*. One of the old names given to the dulcimer by European nations is *cimbal*. The Poles at the preſent day call it *cymbaly*, and the Magyars in Hungary, *cimbalom*. The *clavicembalo*, the predeceſſor of the pianoforte, was in fact nothing but a *cembalo* with a key-board attached to it; and ſome of the old *clavicembali*, ſtill preſerved, exhibit the trapezium ſhape, the round hole in the middle of the ſound-board and other peculiarities of the old dulcimer. Again, the gradual development of the dulcimer from a rude contrivance, conſiſting merely of a wooden board acroſs which a few ſtrings are ſtretched, is diſtinctly traceable by a reference to the muſical inſtruments of nations in different ſtages of civilization. The ſame is the caſe with our highly perfected harp, of which curious ſpecimens, repreſenting the inſtrument in its moſt primitive condition, are ſtill to be found among ſeveral barbarous tribes. We might perhaps infer from its ſhape that it originally conſiſted of nothing more than an elaſtic ſtick bent by a ſtring. The Damaras, a native tribe of South-Weſtern Africa, actually uſe their bow occaſionally as a muſical inſtrument, when they are not engaged in war or in the chaſe. They tighten the ſtring nearly in the middle by means of a leathern thong, whereby they obtain two diſtinct ſounds, which, for want of a ſound-board, are of courſe very weak, and ſcarcely audible to anyone but the performer. Some neighbouring tribes, however, poſſeſs a muſical inſtrument very ſimilar in appearance to the bow, to which they attach a gourd, hollowed, and open at the top, which ſerves as a ſound-board. Again, other African tribes have a ſimilar inſtrument, ſuperior in conſtruction only inaſmuch as it contains more than one ſtring, and is provided with a ſound-board conſiſting of a ſuitable piece of ſonorous wood. In ſhort, the more improved we find theſe contrivances, the cloſer they approach our harp. And it could be ſhown, if this were requiſite for the purpoſe of the preſent eſſay, that much the ſame gradual progreſs towards perfection, which we obſerve in the African harp, is traceable in the harps of ſeveral nations in different parts of the world.

Moreover, the preſent collection of muſical inſtruments deſerves the attention of the ethnologiſt as much as of the muſician. Indeed, this may be aſſerted of national muſic in general; for it gives us an inſight into the heart of man, reveals to us the feelings and predilections of the different races on the globe, and affords us a clue to the natural affinity which exiſts between different families of men.

Again, the collection is likely to prove intereſting taken in a hiſtorical point of view. Viſitors of an archæological turn of mind will find among the antiquated inſtruments ſeveral ſpecimens which were in common uſe in England at the time of Queen Elizabeth, and which are not unfrequently mentioned in our claſſical literature of that period. In many inſtances, the paſſages in which alluſion is made to them can hardly be underſtood, if we are unacquainted with the ſhape and conſtruction of the inſtruments. Furthermore, theſe relics of bygone times bring, ſo to ſay, before our eyes the manners and cuſtoms of our forefathers, and aſſiſt us in underſtanding them correctly.

It will be ſeen that the modification which our orcheſtra has undergone in the courſe of ſcarcely more than a century, is great indeed. Moſt of the inſtruments which were highly popular about a hundred years ago, have either fallen into diſuſe, or are now ſo much altered that they may almoſt be conſidered as new inventions. Among Aſiatic nations, on the other hand, we meet with ſeveral inſtruments which have retained intact through many centuries their old conſtruction and outward appearance. In the preſent catalogue will be found notices of ſome inſtruments, ſtill in popular uſe in Egypt and Weſtern Aſia, which are preciſely like certain ſpecimens repreſented on ancient monuments dating from a period of about three thouſand years ago. By a reference to the Eaſtern inſtruments of the preſent time we obtain therefore a key for inveſtigating the ancient Egyptian and Aſſyrian repreſentations of muſical performances; and, likewiſe, for appreciating more exactly the Biblical records reſpecting the muſic of the Hebrews. Perhaps, theſe evidences will convey to ſome inquirers a leſs high opinion than they have hitherto entertained, regarding the muſical accompliſhments of the Hebrew bands in the ſolemn proceſſions of King David, or in Solomon's temple; but the opinion will be all the nearer to the truth.

There is another point of intereſt about the collection, which muſt not be left unnoticed. Several inſtruments are remarkable on account of their elegant ſhape and taſteful ornamentation. This is eſpecially the caſe with certain ſpecimens from Aſiatic countries. The beautiful

deſigns with which they are embelliſhed may afford valuable patterns for ſtudy and for adoption in works of art.

It has been thought adviſable thus briefly to indicate the various purpoſes for which the preſent collection of muſical inſtruments is likely to prove inſtructive, ſince the plan adopted in the compilation of the catalogue is thereby explained. The aim of the compiler has been to facilitate a ſurvey of the inſtruments of each nation individually, as well as of the whole collection, and eſpecially to impart ſuch information on the ſubject as he thought moſt likely to intereſt viſitors in general. Some ſtatements may, at a firſt glance, appear unimportant; but, as they are ſtatements of aſcertained facts, they ought not to be diſregarded by earneſt inquirers. At all events, if in muſical inveſtigations greater attention had been given to facts apparently of little moment than has generally been the caſe, much light would long ſince have been thrown upon ſeveral intereſting queſtions which are ſtill involved in darkneſs.

AN ESSAY

ON THE HISTORY OF MUSICAL INSTRUMENTS.

A SATISFACTORY account of all the muſical inſtruments from the earlieſt time known to us, would require much more ſpace than can here be afforded. In the preſent eſſay therefore only a conciſe hiſtorical ſurvey has been attempted. It is, however, hoped that the illuſtrations interſperſed throughout the text, will to the intelligent reader elucidate many facts, which, for the reaſon ſtated, are touched upon but curſorily.

Pre-historic Relics.

Several muſical inſtruments, dating from periods anterior to the Chriſtian era, have been diſcovered during the preſent century, preſerved almoſt intact. Among theſe curious relics of high antiquity is a little pipe with two finger-holes, which has been found in the ruins of Babylon, Birs-i-Nimroud, and which, when blown into, ſtill emits tones that cannot have been more clear and diſtinct at the time when the inſtrument had juſt been formed of clay and baked by its conſtructor. Even more ſurpriſing is the preſervation of ſome ſtringed inſtruments, ſpecies of harps, which have been brought to light from ſepulchres of the ancient Egyptians.

Still, theſe inſtruments might almoſt be regarded as belonging to modern times, if we compare their antiquity with that of a certain muſical relic which has recently been exhumed in France, and which was conſtructed by the inhabitants of the country in an age when the fauna of France included among the Herbivora the reindeer, the rhinoceros, the mammoth, the aurochs (*Biſon europæus*); and among the Carnivora the hyæna, the bear, and the cave-lion (*Felis ſpelæa*). With other rude works of art of primæval man which have been found in the caverns of the department of Dordogne (the ancient province of Périgord), occurs a ſmall bone, ſomewhat leſs than two inches in length,

in which is a hole, evidently bored by means of one of thoſe little flint knives which man conſtructed before his acquaintance with the employment of metal for tools and weapons. Many of theſe flints were found in the ſame place with the bones. Only about half a dozen of the bones, of which a conſiderable number have been exhumed, poſſeſs the artificial hole. (*See* Fig. 2.)

M. Lartet ('Cavernes du Périgord, objets gravés et ſculptés des temps pré-hiſtoriques dans l'Europe occidentale,' Paris 1864) ſurmiſes the perforated bone to have been uſed by the aborigines as a whiſtle in hunting animals. It is the firſt digital phalanx of a ruminant, drilled to a certain depth by a ſmooth cylindrical bore, on its lower ſurface near the expanded upper articulation. On applying it to the lower lip and blowing into it, a ſhrill ſound is yielded. Three of theſe phalanges are of reindeer, one is of chamois. Sir Charles Lyell ('The Geological Evidences of the Antiquity of Man,' London 1863) mentions among the pre-hiſtoric remains diſcovered in a ſepulchral grotto near the town of Aurignac in the department of Haute-Garonne, Southern France, "eighteen ſmall, round, and flat plates of a white ſhelly ſubſtance, "made of ſome ſpecies of cockle (*Cardium*), pierced through the "middle as if for being ſtrung into a bracelet." And M. Lartet found in the ſame grotto the tuſk of a cave-bear, carved and perforated lengthwiſe as if for ſuſpenſion as an ornament or amulet. Again, among the relics which have been brought to light from the cave of Lombrive, in the department of Ariège, alſo in the South of France, of which an account has been publiſhed by MM. Rames, Garrigou, and Filhol, occur ſeveral eye-teeth of the dog which have a hole drilled into them near the root. Probably they alſo yield ſounds like thoſe reindeer bones, or like the tube of a key. Still, there remains hardly a doubt that the inſtrument in queſtion was conſtructed for no other purpoſe than that of ſerving as a whiſtle for conveying ſignals. This is the opinion of all *ſavans* who have carefully inveſtigated the pre-hiſtoric relics. Another whiſtle,—or rather a pipe, for it has three finger-holes, by means of which different tones could be produced,—was found in a burying-place, dating from the ſtone period, which is ſituated in the vicinity of Poitiers in France. M. Lartet and Dr. Camus of Paris had a caſt made of this pipe, which they ſent to M. Fétis, who has given an illuſtration of it in his 'Hiſtoire générale de la Muſique.' The pipe is rudely conſtructed from a fragment of

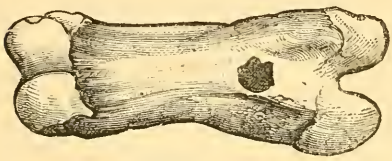


Fig. 2.—A Pre-historic Whistle.

ſtag's-horn. It is blown at the end, like a *flûte à bec*, and the three finger-holes are placed equidiſtantly. Four diſtinct tones muſt have been eaſily obtainable on it: the loweſt, when all the finger-holes were covered; the other three, by opening the finger-holes ſucceſſively. From the character of the ſtone utenſils and weapons diſcovered with this pipe, it is conjectured that the burying-place from which it was exhumed dates from the lateſt time of the ſtone age. Therefore, however old it may be, it is a more recent contrivance than the reindeer-bone whiſtle from the cavern of Périgord.

Musical Instruments of the Ancient Egyptians.

The moſt ancient nations hiſtorically known poſſeſſed muſical inſtruments which, though in acouſtic conſtruction greatly inferior to our own, exhibit a degree of perfection which could have been attained only after a long period of cultivation. Many nations or tribes of the preſent day have not yet reached this ſtage of muſical progreſs.

As regards the inſtruments of the ancient Egyptians we now poſſeſs perhaps more detailed information than of thoſe appertaining to any other nation of antiquity. This information we owe eſpecially to the exactneſs with which the inſtruments are depicted in ſculptures and paintings. Whoever has examined theſe intereſting monuments with even ordinary care, cannot but be convinced that the repreſentations which they exhibit, are faithful tranſcripts from life. Moreover, if there remained any doubt reſpecting the accuracy of the repreſentations of the muſical inſtruments, it might be diſpelled by moſt reliable evidence. Several ſpecimens have been diſcovered in tombs preſerved in a more or leſs perfect condition.

The Egyptians poſſeſſed various kinds of harps, ſome of which were elegantly ſhaped and taſtefully ornamented. The largeſt were about 6½ feet high; and the ſmall ones frequently had ſome ſort of ſtand which enabled the performer to play upon the inſtrument while ſtanding. The name of the harp was *buni*. Its frame had no front pillar; the tenſion of the ſtrings therefore cannot have been anything like ſo ſtrong as on our preſent harp. (*See* the Ancient Egyptian Concert, Fig. 10.)

The Egyptian harps moſt remarkable for elegance of form and elaborate decoration are the two which were firſt noticed by the traveller Bruce, who found them painted in freſco on the wall of an ancient ſepulchre at Thebes, which is ſuppoſed to be the tomb of Rameſes III., who reigned about 1250 B.C. Bruce's diſcovery firſt became known to the muſical world through a letter addreſſed

by him to Dr. Burney, which, accompanied by a drawing of one of theſe harps, without the figure of the performer, was publiſhed in the firſt volume of Burney's 'Hiſtory of Muſic.' Soon afterwards, engravings of both inſtruments appeared in Bruce's 'Travels,' vol. I. The diſcovery created ſenſation among muſicians. The fact that at ſo remote an age the Egyptians ſhould have poſſeſſed harps which vie with our own in elegance and beauty of form, appeared to ſome ſo incredible that the correctneſs of Bruce's repreſentations was greatly doubted. Sketches of the ſame harps, taken ſubſequently and at different times from the freſcoes, have been publiſhed, all of which differ more or leſs from each other in appearance and in the number of ſtrings. The engravings Figs. 3 and 4 repreſent "Bruce's Harps" as they appear in Sir G. Wilkinſon's 'Manners and Cuſtoms of the Ancient Egyptians.'

Fig. 3.—Harp with Ten Strings. Ancient Egyptian.

A kind of triangular harp of the Egyptians was diſcovered in a well-preſerved condition and is now depoſited in the Louvre. It has twenty-one ſtrings,—a greater number than is generally repreſented on the monuments. In the engraving Fig. 5 is ſhown the manner in which the ſtrings were faſtened on the triangular harp. All theſe inſtruments, however much they differed from each other in form, had one peculiarity in common,—the abſence of the fore pillar. Moreover, the Egyptians had various kinds of the Trigonon as well as various kinds of Lyres. The Trigonon ought perhaps more properly to be claſſed with the lyre than with the harp, becauſe it partakes more of the character of the former inſtrument. A curious ſtringed inſtrument of a ſemicircular ſhape was diſcovered in the year 1823 at Thebes. It was mounted with twenty ſtrings of catgut (probably made of the

Fig. 4.—Harp with Thirteen Strings. Ancient Egyptian.

inteſtines of the camel), which ſtill emitted ſound when made to vibrate. Its wooden frame was covered with red leather. It had no tuning-pegs. The ſtrings were affixed to the upper part of the frame,

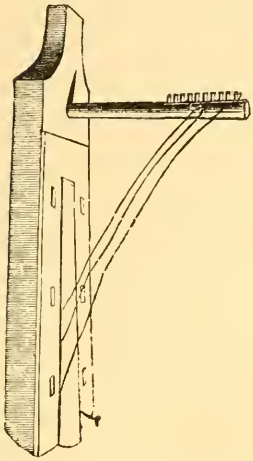


Fig. 5.—Triangular Harp of the Ancient Egyptians.

Fig. 6.—Kind of Trigonon.

and were tuned by being wound round a ſtraight rod, which was inſerted into the lower part of the frame. The inſtrument was therefore a kind of Trigonon.

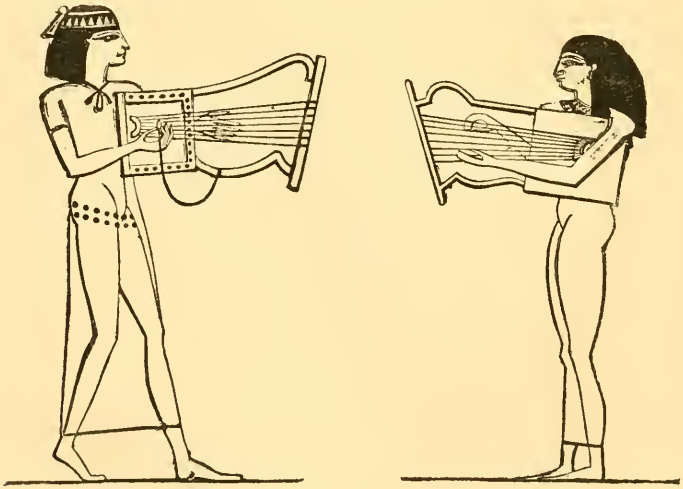


Fig. 7.—Lyres held horizontally. Ancient Egyptian.

As regards the Lyre, ſome kinds were held perpendicularly, inſtead of horizontally, when played upon. The ſtrings were twanged with the fingers, or with a plectrum, made of bone, ivory, or wood. The plectrum was uſually affixed to a cord ſuſpended from the frame. The frame was not unfrequently ornamented with the carved head of the horſe, gazelle, or ſome other favourite animal. Two lyres like that repreſented in the engraving Fig. 8, have been found in a remarkably perfect ſtate of preſervation, and are now in the Muſeums of Berlin and Leyden. That in the Berlin Muſeum is two feet high; its body is about ten inches high, and about fifteen inches broad. It appears to have had originally thirteen ſtrings. That in the Leyden Muſeum is ſimilar, but ſmaller. Theſe lyres are entirely of wood, and the frame is made longer on one ſide than on the other, for the purpoſe of tuning the inſtrument by ſliding the ſtrings upwards or downwards to obtain the pitch required.

A peculiar inſtrument with four ſtrings (Fig. 9) was, when played upon, carried by the performer on his ſhoulder. Some portions of this

Fig. 8.—Lyre held perpendicularly. Ancient Egyptian.

Fig. 9.—Four-stringed Instrument, borne upon the Shoulder of the Performer.

inſtrument may be ſeen in the Britiſh Muſeum. It was made entirely of wood, except that the body was covered with parchment. Another curious inſtrument of this kind, of which remains have been preſerved, much reſembles in conſtruction the Negro Nanga. (*See* Fig. 111.)

Buni (Harp).—Nofre (Tamboura).

Mam (Double-pipe).

Fig. 10.—An Ancient Egyptian Concert.

The *nofre*, a kind of guitar (Fig. 10) was almoſt identical in conſtruction with the Tamboura at the preſent day in uſe among ſeveral Eaſtern nations. It was evidently a great favourite with the ancient Egyptians. A figure of it is found among their hieroglyphs, ſignifying "good." It occurs in repreſentations of concerts dating earlier than from B.C. 1500. The *nofre* affords the beſt proof that the Egyptians had made conſiderable progreſs in muſic at a very early age; ſince it ſhows that they underſtood how to produce on a few ſtrings, by means of the finger-board, a greater number of notes than were obtainable even on their harps. The inſtrument had two or four ſtrings, was played with a plectrum, and appears to have been ſometimes, if not always, provided with frets. In the Britiſh Muſeum is a fragment of a freſco, obtained from a tomb in the Weſtern Hills of Thebes, on which two female performers on the Nofre are repreſented. The painter has diſtinctly indicated the frets. There is alſo in the Britiſh Muſeum a ſmall Egyptian vaſe in terra-cotta, from Thebes, 8½ inches high, which repreſents a female playing a Nofre, whereon the frets are diſtinctly marked over the whole neck, even where it extends over the body. If this be a faithful repreſentation of the finger-board,—and there is no reaſon to doubt its fidelity,—a great number of ſtrictly defined intervals muſt have been obtainable upon each ſtring.

The Egyptians poſſeſſed alſo a kind of lute, or a Nofre with a ſhort neck. A ſpecimen was found at Thebes in a dilapidated condition, without tuning-pegs, or indications of its ever having had any. The upper part of the body was of parchment.

Small pipes of the Egyptians have been diſcovered, made of reed, with three, four, five, or more finger-holes. Above a dozen may be ſeen in the Leyden Muſeum. There are alſo intereſting examples in the Britiſh Muſeum; one of which has ſeven holes burnt in at the ſide. Two ſtraws were found with it of nearly the ſame length as the pipe, which is about one foot long. In ſome other pipes pieces of a kind of thick ſtraw have alſo been found inſerted into the tube, obviouſly ſerving for a ſimilar purpoſe as the *reed* in our oboe or clarionet.

The *ſebi*, a ſingle flute, was of conſiderable length, and the performer appears to have been obliged to extend his arms almoſt at full length in order to reach the furtheſt finger-hole. As *ſebi* is alſo the name of the leg-bone (like the Latin *tibia*), it may be ſuppoſed that the Egyptian flute was originally made of bone. Thoſe, however, which have been found are of wood or reed.

The repreſentation of a flute-concert, Fig. 11, is from one of the tombs in the Pyramids of Gizeh, and dates, according to Lepſius, from

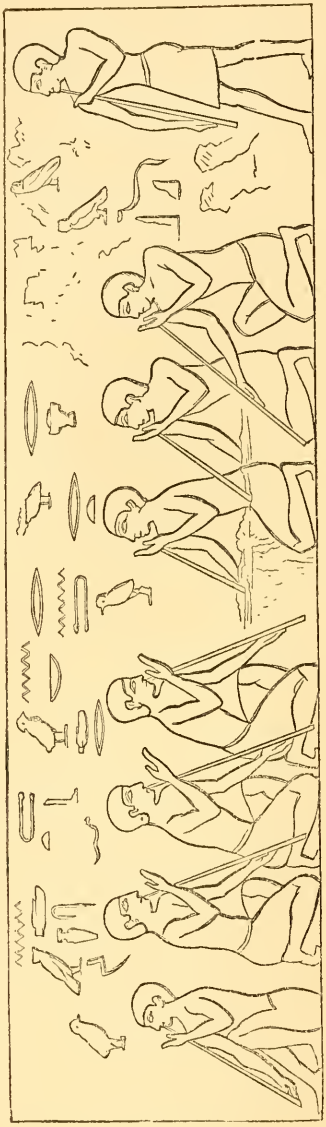


Fig. 11.—An Ancient Egyptian Flute Concert.

the Fifth Dynaſty; it muſt, therefore, be earlier than B.C. 2000. Eight muſicians are performing on flutes. Three of them, one behind the other, are kneeling and holding their flutes in exactly the ſame manner. Facing theſe are three others, in a preciſely ſimilar poſition. A ſeventh is ſitting on the ground to the left of the ſix, with his back turned towards them, but alſo in the act of blowing his flute, like the others. An eighth is ſtanding at the right ſide of the group, with his face turned towards them, holding his flute before him with both hands, as if he were going to put it to his mouth, or had juſt left off playing. He is clothed, while the others have only a narrow girdle round their oins. Perhaps he is the director of this ſingular band, or the *ſolo* performer who is waiting for the termination of the *tutti* before renewing his part of the performance. And does not the diviſion of the players into two ſets, facing each other, ſuggeſt the poſſibility that the inſtruments were claſſed ſomewhat like the firſt and ſecond violins, or the *flauto primo* and *flauto ſecundo*, of our orcheſtras? The occaſional employment of the interval of the third, or the fifth, as accompaniment to the melody, is not unuſual even with nations leſs advanced in muſic than were the ancient Egyptians.

The Double-Pipe, the name of which was *mam* (Fig. 10), appears to have been a very popular inſtrument, to conclude from the frequency of its occurrence in the repreſentations of muſical performances. Furthermore, the Egyptians had, as far as is known to us, two kinds of trumpets; three kinds of tambourines, or little hand drums; three kinds of drums, chiefly barrel-ſhaped; and various kinds of gongs, bells, cymbals, and caſtanets. The military band repreſented in the engraving Fig. 12 conſiſts of five muſicians,—viz., a trumpeter; a

Fig. 12.—Military Band. Ancient Egyptian.

drummer; a performer on an inſtrument which is ſo much obliterated that its real character cannot be determined, but which to judge from its form and ſize muſt have been of importance in a military band; and two perſons who are claſhing together each a pair of cylindrical maces or crotala.

The trumpet appears to have been uſually of braſs. A peculiar wind-inſtrument, ſomewhat the ſhape of a champagne bottle, occurs only once in the repreſentations tranſmitted to us. It appears to be a kind of trumpet perhaps made of pottery or wood.

The Egyptian drum ſhown in the Military Band (Fig. 12) was from two to three feet in length, covered with parchment at both ends, and braced by cords. The performer carried it before him, generally by means of a band over his ſhoulder, while he was beating it with his hands on both ends. Of another kind of drum an actual ſpecimen has been found in the excavations made in the year 1823 at Thebes. It was 1½ feet high and two feet broad, and had cords for bracing it. A piece of catgut encircled each end of the drum, being wound round each cord, by means of which the cords could be tightened or ſlackened at pleaſure, by puſhing the two bands of catgut towards or from each other. It was beaten with two drumſticks ſlightly bent. The Egyptians had alſo ſtraight drumſticks with a handle, and a knob at the end. The Berlin Muſeum poſſeſſes ſome of theſe.

The third kind of drum was almoſt identical with the *darabouka* (or *darabukkeh*) of the modern Egyptians. The Tambourine was either round, like that which is at the preſent time in uſe in Europe as well as in the Eaſt; or it was of an oblong ſquare ſhape, ſlightly incurved on the four ſides. Two inſtruments of this deſcription, and one of the common kind are repreſented in the engraving Fig. 13.

Fig. 13.—Three Tambourines and a Darabouka of the Ancient Egyptians.

The Siſtrum conſiſted of a frame of bronze or braſs into which three or four metal bars were looſely inſerted, ſo as to produce a jingling noiſe when the inſtrument was ſhaken. The bars were often made in the form of ſnakes, or they terminated in the head of a gooſe. Not unfrequently a few metal rings were ſtrung on the bars, to increaſe the noiſe. The frame was ſometimes ornamented with the figure of a cat. The largeſt ſiſtra which have been found are about 18 inches in length, and the ſmalleſt about nine inches. The ſiſtrum was principally uſed by females in religious performances. Its Egyptian name was *ſeſheſh*.

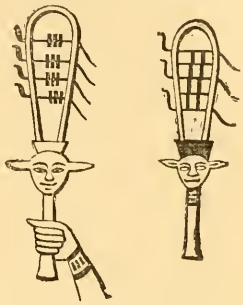


Fig. 14.—Sistra. Ancient Egyptian.

The Egyptian cymbals cloſely reſembled our own in ſhape. There are two pairs of them in the Britiſh Muſeum. One pair was found in a coffin encloſing the mummy of Ankhhapê, a ſacred muſician, and is depoſited in the ſame caſe with the mummy and coffin. Among the Egyptian antiquities in the Britiſh Muſeum are alſo ſeveral ſmall bells of bronze. The largeſt is $2\frac{1}{4}$ inches in height, and the ſmalleſt three-quarters of an inch. Some of them have a hole at the ſide near the top wherein the clapper was faſtened.

Musical Instruments of the Assyrians.

Our acquaintance with the Aſſyrian inſtruments has been derived almoſt entirely from the famous bas-reliefs which have been excavated from the mounds of Nimroud, Khorſabad, and Kouyunjik, ſituated near the river Tigris in the vicinity of the town of Moſul in Aſiatic Turkey.

The Aſſyrian Harp was about four feet high, and appears of larger ſize than it actually was, on account of the ornamental appendages which were affixed to the lower part of its frame. It muſt have been but light in weight, ſince we find it not unfrequently repreſented in the hands of perſons who are playing upon it while they are dancing. Like all the Oriental harps, modern as well as ancient, it was not provided with a front pillar. The upper portion of the frame contained the ſound-holes, ſomewhat in the ſhape of an hour-glaſs. Below them were the ſcrews, or tuning-pegs, arranged in regular order. The ſtrings were perhaps made of ſilk, like thoſe which the Burmeſe uſe at the preſent time on their harps; or they may have been of catgut, which was uſed by the ancient Egyptians.

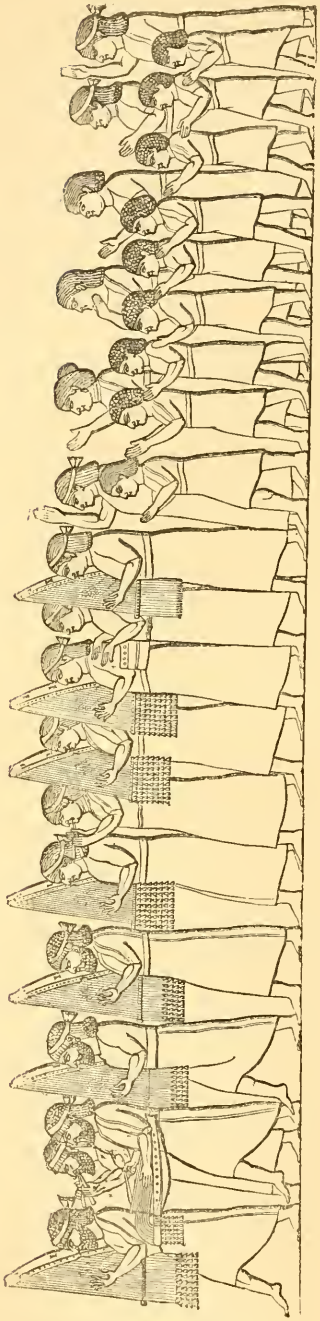


Fig. 15.—Procession of Assyrian Musicians to meet the Conquerors returning from Battle.

The engraving Fig. 15 repreſents the largeſt aſſemblage of Aſſyrian muſicians which has been diſcovered. It conſiſts of eleven performers upon inſtruments, beſides a chorus of ſingers. The firſt muſician,—probably the leader of the band, as he marches alone at the head of the proceſſion,—is playing upon a harp. Behind him are two men,—one with a dulcimer and the other with a double-pipe; then follow two men with harps. Next come ſix female muſicians, four of whom are playing upon harps, while one is blowing a double-pipe and another is beating a ſmall hand-drum covered only at the top. Cloſe behind the inſtrumental performers are the ſingers, conſiſting of a chorus of females and children. They are clapping their hands in time with the muſic, and ſome of the muſicians are dancing to the meaſure. One of the female ſingers is holding her hand to her throat in the ſame manner as the women in Syria, Arabia, and Perſia are in the habit of doing at the preſent day when producing, on feſtive occaſions, thoſe peculiarly ſhrill ſounds of rejoicing which have been repeatedly noticed by Oriental travellers.

The dulcimer is in too imperfect a ſtate on the bas-relief to familiarize us with its conſtruction. The ſlab repreſenting the pro-

Fig. 16.—An Assyrian Instrument of the Trigonon Species.

ceſſion, in which it occurs, has been injured; the defect, which extended over a portion of the dulcimer, has been repaired, and it cannot be ſaid that in repairing it much muſical knowledge has been evinced. Some inveſtigators are of opinion that the ſculpture originally repreſented an inſtrument of the Trigonon ſpecies like the one ſhown in Fig. 16. But this is doubtful; for the lower portion of the frame, which is well preſerved, has a different form from that of the latter, and is marked with a number of dots, evidently intended for tuning-pegs, which on the latter are placed on the front pillar.

The inſtrument of the Trigonon ſpecies was held horizontally, and was twanged with a rather long plectrum ſlightly bent at the end at which it was held by the performer. It is of frequent occurrence on the bas-reliefs. A number of them appear to have been generally played together. At any rate, we find almoſt invariably on the monuments two together, evidently implying "more than one," "a number." The left hand of the performer (Fig. 16) ſeems to have been occupied in checking the vibration of the ſtrings when its diſcontinuance was required. From the poſition of the ſtrings, the performer could not have ſtruck them as thoſe of the dulcimer are ſtruck. If he did not twang them, he may have drawn the plectrum acroſs them. Indeed, for twanging, a ſhort plectrum would have been more practical, con-

Fig. 17.—Assyrian Lyres, Tambourine, and Cymbals.

ſidering that the ſtrings are placed horizontally one above the other at regular diſtances. It is therefore by no means improbable that we have here a rude prototype of the violin bow.

The Lyre occurs in three different forms, and is held horizontally in playing, or at leaſt nearly ſo. Its front bar was generally either oblique or ſlightly curved. The ſtrings were tied round the bar ſo as to allow of their being puſhed upwards or downwards. In the former caſe the tenſion of the ſtrings increaſes, and the notes become therefore higher; on the other hand, if the ſtrings are puſhed lower down, the pitch of the notes muſt become deeper. The lyre was played with a ſmall plectrum, as well as with the fingers.

Fig. 18.—Assyrian Tamboura.

The Aſſyrian Tamboura (Fig. 18) reſembled the *nofre* of the ancient Egyptians. Perhaps it had only two ſtrings to which were affixed the two taſſels which are ſeen hanging down from the neck.

The Double-pipe appears to have been more common with the Aſſyrians than the ſingle pipe. The latter does not occur on the monuments, but it muſt have preceded the double-pipe. The Aſſyrians may very likely have poſſeſſed ſeveral popular inſtruments with which we have not become acquainted, becauſe they were not uſed in ſuch performances and ceremonies as are repreſented on the ſculptures.

The Aſſyrian Trumpet was very ſimilar to the Egyptian one ſhown in the engraving, Fig. 12. Furthermore, we meet with three kinds of drums, of which one kind is eſpecially noteworthy on account of its odd ſhape, ſomewhat resembling a ſugar-loaf (Fig. 19); with the tambourine; with two kinds of cymbals; and with bells, of which a conſiderable number have been found in the mound of Nimroud. Theſe bells, which have greatly withſtood the devaſtation of time, are but ſmall in ſize, the largeſt of them being only $3\frac{1}{4}$ inches in height and $2\frac{1}{2}$ inches in diameter. Moſt of them have a hole at the top, in

which probably the clapper was faſtened. They are made of copper mixed with 14 per cent. of tin.

Fig. 19.—Assyrian Drums.

Inſtrumental muſic was uſed by the Aſſyrians and Babylonians in their religious obſervances. This is obvious from the ſculptures, and is to ſome extent confirmed by the mode of worſhip paid by command of king Nebuchadnezzar to the golden image, which is ſuppoſed to have been Baal :—" Then an herald cried aloud, To you it is com-" manded, O people, nations, and languages, that at what time ye hear " the ſound of the cornet, flute, harp, ſackbut, pſaltery, dulcimer, and all " kinds of muſick, ye fall down and worſhip the golden image that " Nebuchadnezzar the king hath ſet up." (Dan. iii. 4, 5.)

We ſhall preſently endeavour to aſcertain in how far the names of the inſtruments adopted in the Engliſh verſion coincide with thoſe given in the original text. Suffice it here to draw attention to the multifarioufneſs of the Babylonian orcheſtra in ſacred performances.

The kings appear to have maintained at their courts muſical bands, whoſe office it was to perform ſecular muſic at certain times of the day,

or on fixed occaſions. Of king Darius the Mede we are told that, when he had caſt Daniel into the den of lions, he "went to his palace, "and paſſed the night faſting, neither were inſtruments of muſick "brought before him" (Dan. vi. 18); from which we may conclude that his band was in the habit of playing before him in the evening.

A ſimilar cuſtom prevailed alſo at the Court of Jeruſalem, at leaſt in the time of David and Solomon; both of whom appear to have had their royal private bands, beſides a large number of ſingers and inſtrumental performers of ſacred muſic, who were engaged in the Temple.

Musical Instruments of the Hebrews.

As regards the muſical inſtruments of the Hebrews, we are from biblical records acquainted with the names of many of them; but reliable repreſentations are ſtill wanting, and it is chiefly from an examination of the ancient Egyptian and Aſſyrian inſtruments that we can conjecture almoſt to a certainty of their conſtruction and capabilities. From various indications, which it would be too circumſtantial here to point out, we may ſurmiſe the Hebrews to have poſſeſſed the following inſtruments:—

The Harp.—There cannot be a doubt that the Hebrews poſſeſſed the harp, ſeeing that it was a common inſtrument among the Egyptians and Aſſyrians. But it is uncertain which of the Hebrew names of the ſtringed inſtruments occurring in the Bible really deſignates the harp.

The Dulcimer.—Some writers on Hebrew muſic conſider the *nebel* to have been a kind of dulcimer; others conjecture the ſame of the *pſanterin* mentioned in the book of Daniel,—a name which appears to be ſynonymous with the *pſalterion* of the Greeks, and from which alſo the preſent Oriental dulcimer, *ſantir*, may have been derived. Some of the inſtruments mentioned in the book of Daniel may have been ſynonymous with ſome which occur in other parts of the Bible under Hebrew names,—the names given in Daniel being Chaldæan. The *aſor* was a ten-ſtringed inſtrument played with a plectrum, and is ſuppoſed to have borne ſome reſemblance to the *nebel*. Perhaps it was in appearance ſimilar to the Aſſyrian inſtrument Fig. 16, which is deſcribed as a ſpecies of Trigonon.

The Lyre.—This inſtrument is repreſented on ſome Hebrew coins generally aſcribed to Simon Maccabæus, who lived in the ſecond

century before the Chriſtian era. There are ſeveral of them in the Britiſh Muſeum; ſome are of ſilver, and the others of copper. On three of them are lyres with three ſtrings, another has one with five, and another one with ſix ſtrings. The body of the lyre appears in two different ſhapes, as ſhown in the engraving Fig. 20, which exhibits

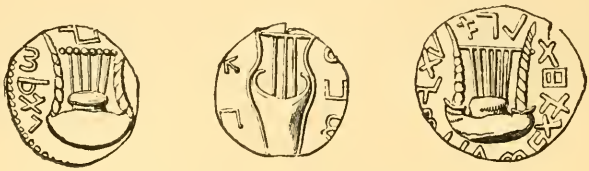


Fig. 20.—Hebrew Coins with the Lyre.

three copper coins which are in the Britiſh Muſeum. The two ſides of the frame appear to have been made of the horns of animals, or they may have been of wood formed in imitation of two horns, which originally were uſed. Lyres thus conſtructed are ſtill found in Abyſſinia. The Hebrew ſquare-ſhaped lyre, Fig. 21, of the time of Simon Maccabæus, is probably identical with the *pſalterion*. The *kinnor*, the favourite inſtrument of King David, was moſt likely a lyre, if not a ſmall triangular harp. The lyre was evidently an univerſally known and favoured inſtrument among ancient Eaſtern nations. Being more ſimple in conſtruction than moſt other ſtringed inſtruments, it undoubtedly preceded them in antiquity. The *kinnor* is mentioned in the Bible as the oldeſt ſtringed inſtrument, and as the invention of Jubal. Even if the name of one particular ſtringed inſtrument is here uſed for ſtringed inſtruments in general, which may poſſibly be the caſe, it is only reaſonable to ſuppoſe that the oldeſt and moſt univerſally known ſtringed inſtrument would be mentioned as a repreſentative of the whole claſs rather than any other. Beſides, the *kinnor* was a light and eaſily portable inſtrument; King David, according to the Rabbinic records, uſed to ſuſpend it during the night over his pillow. All its uſes mentioned in the Bible are eſpecially applicable to the lyre. And the reſemblance of the word *kinnor* to *kithara*, *kiſſar*, and ſimilar

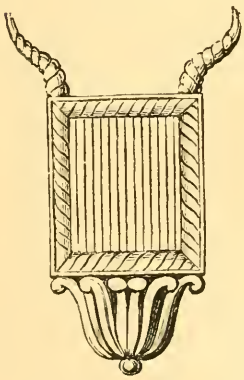


Fig. 21.—Hebrew square-shaped Lyre.

names known to denote the lyre, alſo tends to confirm the ſuppoſition that it refers to this inſtrument or to a kind of Trigonon. It is, however, not likely that the inſtruments of the Hebrews,—indeed their muſic altogether,—ſhould have remained entirely unchanged during a period of many centuries. Some modifications were likely to occur even from accidental cauſes; ſuch, for inſtance, as the unpremeditated invention of ſome inſtrument, or the influence of neighbouring nations, as the Aſſyrians, when the Hebrews came into cloſer contact with them. Thus may be explained why the accounts of the Hebrew inſtruments given by Joſephus, who lived in the firſt century of the Chriſtian era, are not in exact accordance with thoſe in the Bible. The lyres at the time of Simon Maccabæus may probably be different from thoſe which were in uſe about a thouſand years earlier, or at the time of David and Solomon, when the art of muſic with the Hebrews was in its zenith.

There appears to be a probability that a Hebrew lyre of the time of Joſeph (about 1700 B.C.) is repreſented on an ancient Egyptian painting diſcovered in a tomb at Beni Haſſan,—which is the name of certain grottoes on the eaſtern bank of the Nile. Sir Gardner Wilkinſon in his 'Manners and Cuſtoms of the Ancient Egyptians' obſerves: "If, when we become better acquainted with the interpretation of "hieroglyphics, the 'Strangers' at Beni Haſſan ſhould prove to be the "arrival of Jacob's family in Egypt, we may examine the Jewiſh lyre "drawn by an Egyptian artiſt. That this event took place about the "period when the inmate of the tomb lived is highly probable—at "leaſt, if I am correct in conſidering Oſirtaſen I. to be the Pharaoh "the patron of Joſeph; and it remains for us to decide whether the "diſagreement in the number of perſons here introduced—thirty-ſeven "being written over them in hieroglyphics—is a ſufficient objection "for their indentity. It will not be foreign to the preſent ſubject to "introduce thoſe figures which are curious, if only conſidered as "illuſtrative of ancient cuſtoms at that early period, and which will be "looked upon with unbounded intereſt ſhould they ever be found to "refer to the Jews. The firſt figure is an Egyptian ſcribe, who "preſents an account of their arrival to a perſon ſeated, the owner of "the tomb, and one of the principal officers of the reigning Pharaoh. "The next, alſo an Egyptian, uſhers them into his preſence; and two "advance, bringing preſents, the wild goat or ibex, and the gazelle, "the productions of their country. Four men, carrying bows and "clubs, follow, leading an aſs on which two children are placed in "panniers, accompanied by a boy and four women; and, laſt of all,

" another aſs laden, and two men—one holding a bow and club, the " other a lyre, which he plays with a plectrum. All the men have " beards, contrary to the cuſtom of the Egyptians, but very general in " the Eaſt at that period, and noticed as a peculiarity of foreign " uncivilized nations throughout their ſculptures. The men have " ſandals, the women a ſort of boot reaching to the ankle—both which " were worn by many Aſiatic people. The lyre is rude, and differs a " little in form from thoſe generally uſed in Egypt." In the engraving Fig. 22 the lyre-player, another man, and ſome ſtrange animals from this group, are repreſented.

Fig. 22.—The ſuppoſed Hebrew Lyre represented on an Ancient Egyptian Painting in a Tomb at Beni Hassan.

The Tamboura. — *Minnim*, *machalath*, and *nebel* are uſually ſuppoſed to be the names of inſtruments of the lute or guitar kind. *Minnim*, however, appears more likely to imply ſtringed inſtruments in general, than any particular inſtrument.

The Single Pipe.—*Chalil* and *nekeb* were the names of the Hebrew pipes or flutes.

The Double Pipe. — Probably the *miſhrokitha* mentioned in Daniel. The *miſhrokitha* is repreſented in the drawings of our Hiſtories of Muſic as a ſmall organ, conſiſting of ſeven pipes placed in a box, with a mouthpiece for blowing. But the ſhape of the pipes and

of the box, as well as the row of keys for the fingers exhibited in the repreſentation of the *miſhrokitha* have too much of the European type not to ſuggeſt that they are probably a product of the imagination. Reſpecting the illuſtrations of Hebrew inſtruments which uſually accompany hiſtorical treatiſes on muſic, and commentaries on the Bible, it ought to be borne in mind that moſt of them are merely the offspring of conjectures founded on ſome obſcure hints in the Bible, or vague accounts by the Rabbins.

The Syrinx or Pandean Pipe.—Probably the *ugab*, which in the Engliſh authorized verſion of the Bible is rendered "organ."

The Bagpipe.—The word *ſumphonia*, which occurs in the book of Daniel, is, by Forkel and others, ſuppoſed to denote a bagpipe. It is remarkable that at the preſent day the bagpipe is called by the Italian peaſantry Zampogna. Another Hebrew inſtrument, the *magrepha*, generally deſcribed as an organ, was more likely only a kind of bagpipe. The *magrepha* is not mentioned in the Bible, but is deſcribed in the Talmud. In tract Erachin it is recorded to have been a powerful organ which ſtood in the temple at Jeruſalem, and conſiſted of a caſe or wind-cheſt, with ten holes, containing ten pipes. Each pipe was capable of emitting ten different ſounds, by means of finger-holes, or ſome ſimilar contrivance: thus one hundred different ſounds could be produced on this inſtrument. Further, the *magrepha* is ſaid to have been provided with two pairs of bellows, and with ten keys, by means of which it was played with the fingers. Its tone was, according to the Rabbinic accounts, ſo loud that it could be heard at an incredibly long diſtance from the temple. However, Pfeiffer, one of the beſt authorities on Hebrew muſic, is of opinion that the *magrepha* was a large kettle-drum which ſtood between the porch of the temple and the altar, and which was ſtruck to aſſemble the prieſts to prayer, and the Levites to the performance of ſacred ſongs, as well as to announce the approach of lepers for purification. Again, Saalſchütz, another careful inquirer, declares this to be an error, which he ſuppoſes to have ariſen from Pfeiffer having been miſled by the name *magrepha*, being alſo applied to another inſtrument, likewiſe uſed in the temple. This, however, was not a muſical inſtrument at all, but a large fire-ſhovel uſed in removing the cinders and aſhes from the altar and temple. In the Talmud, tract Thamid, it is ſtated that it was the cuſtom for the Levite, at a fixed time, after having uſed the ſhovel, to throw it down between the altar and the porch, thereby producing a loud noiſe, which was heard at a great diſtance from the temple, and ſerved to inform the people who approached how far the religious obſervances had proceeded.

In ſhort, it appears uncertain whether the much-lauded *magrepha* was a bagpipe, an organ, a kettle-drum, or a fire-ſhovel. Of the real nature of the Hebrew bagpipe perhaps ſome idea may be formed from a Syrinx with bellows (Fig. 23) which has been found repreſented on one of the ancient terra-cottas excavated in Tarſus, Aſia Minor, ſome years ſince. Theſe remains are believed to be about 2000 years old, judging from the figures upon them, and from ſome coins ſtruck about 200 years B.C. having been found embedded with them. We have therefore before us, probably, the oldeſt repreſentation of a bagpipe hitherto diſcovered.

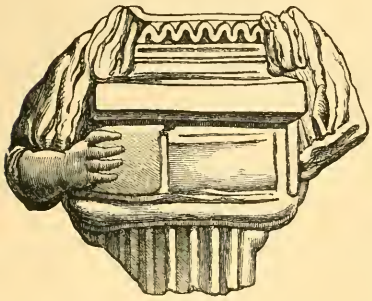


Fig. 23.—Ancient Bagpipe from Tarsus, Cilicia.

The Trumpet.—Three kinds are mentioned in the Bible, viz.: the *keren*, the *ſhophar*, and the *chatzozerah*. The firſt two were more or leſs curved, and might properly be conſidered as horns. Moſt commentators are of opinion that the *keren*—made of ram's horn—was almoſt identical with the *ſhophar*, the only difference being that the latter was more curved than the former. The *ſhophar* is eſpecially remarkable as being the only Hebrew muſical inſtrument which has been preſerved to the preſent day in the religious ſervices of the Jews. It is ſtill blown in the ſynagogue, as in time of old, at the Jewiſh New Year's feſtival, according to the command of Moſes (Numb. xxix. 1). The *chatzozerah* was a ſtraight trumpet, about two feet in length, and was ſometimes made of ſilver (Numb. x. 2).

The Drum.—There can be no doubt that the Hebrews had ſeveral kinds of drums. We know, however, only of the *toph*, which appears to have been a tambourine, or a ſmall hand-drum like the Egyptian darabouka repreſented in the engraving, Fig. 13.

In the Engliſh verſion of the Bible it is rendered *timbrel* or *tabret*. This inſtrument was eſpecially uſed in proceſſions, on occaſions of rejoicing, and frequently by females. We find it in the hands of Miriam, when ſhe was celebrating with the Iſraelitiſh women in ſongs of joy the deſtruction of Pharaoh's hoſt (Exod. xv. 20); and in the hands of Jephtha's daughter, when ſhe went out to welcome her father (Judges xi. 34). There exiſts at the preſent day in the Eaſt a ſmall hand-drum, called *doff*, *diff*, or *adufe*—a name which appears to be ſynonymous with the Hebrew *toph*.

THE SISTRUM.—Winer, Saalſchütz, and ſeveral other commentators are of opinion that the *menaaneim*, mentioned in 2 Sam. vi. 5, denotes the ſiſtrum. In the Engliſh Bible the word is rendered *cymbals*.

CYMBALS.—The *tzeltzelim*, *metzilloth*, and *metzilthaim*, appear to have been cymbals, or ſimilar metallic inſtruments of percuſſion, differing in ſhape and ſound.

BELLS.—The little bells on the robe of the high-prieſt were called *phaamon*. Small golden bells were attached to the lower part of the robes of the high-prieſt in his ſacred miniſtrations (Exod. xxviii. 33, 34, and Ecclus. xlv. 9). The Jews have, at the preſent day, in their ſynagogues ſmall bells attached to the Rolls of the Law containing the Pentateuch,—a kind of ornamentation which is ſuppoſed to have been in uſe from time immemorial. No other Hebrew bells are known. However, in Zech. xiv. 20, "bells of the horſes" are mentioned, which probably were faſtened on the bridle or upon the forehead of the horſes, as we find them at the preſent day in many countries. In ſome of the Aſſyrian bas-reliefs horſes are repreſented wearing on the neck a little bell with a clapper. It may have been a uſual cuſtom alſo with the Hebrews to decorate their horſes in this manner.

Beſides the names of Hebrew inſtruments already given, there occur ſeveral others in the Old Teſtament, upon the real meaning of which much diverſity of opinion prevails. *Jobel* (Exod. xix. 13; Jos. vi. 4, 5, 6, 8, 13) is by ſome commentators claſſed with the trumpets, but is by others believed to deſignate a loud and cheerful blaſt of the trumpet, uſed on particular occaſions. If *Jobel* (from which *jubilare* is ſuppoſed to be derived) is identical with the name *Jubal*, the inventor of muſical inſtruments, it would appear that the Hebrews appreciated pre-eminently the exhilarating power of muſic. *Shaliſhim* is ſuppoſed to denote a triangle. *Nechiloth*, *gittith*, and *machalath*, which occur in the headings of Pſalms v., viii., liii., lxxxi., lxxxiv., lxxxviii., are alſo by ſome commentators ſuppoſed to be muſical inſtruments. *Nechiloth* is ſaid to have been a flute, and *gittith* and *machalath* to have been ſtringed inſtruments. Again, others maintain that the words denote peculiar modes of performance, or certain favourite melodies to which the pſalms were directed to be ſung, or chanted. *Machol* (Exod. xv. 20; xxxii. 19; Judg. xi. 34; xxi. 21; I. Kings iv. 31; Pſalms xxx. 11; cxlix. 3; cl. 4; Song of Sol. vii. 1; Jerem. xxxi. 4, 13; Lament. v. 15) is in the opinion of ſome writers, a kind of flute, eſpecially uſed in accompanying dances, but is more generally believed to ſignify the dance itſelf.

According to the records of the Rabbins, the Hebrews in the time of David and Solomon poſſeſſed thirty-ſix different muſical inſtruments. In the Bible, however, only about half that number are mentioned.

Moſt nations of antiquity aſcribed the invention of their muſical inſtruments to their gods, or to certain ſuper-human beings. The Hebrews attributed it to man. At any rate Jubal is mentioned as "the father of all ſuch as handle the harp and organ" (*i. e.* performers on ſtringed-inſtruments and wind inſtruments). As inſtruments of percuſſion are almoſt invariably in uſe long before people are led to conſtruct ſtringed and wind inſtruments it might perhaps be ſurmiſed that Jubal was not regarded as the inventor of all the Hebrew inſtruments, but rather as the firſt profeſſional cultivator of inſtrumental muſic.

Musical Instruments of the Greeks.

Many muſical inſtruments of the ancient Greeks are known to us by name; but, reſpecting their exact conſtruction and capabilities, there ſtill prevails almoſt as much diverſity of opinion as is the caſe with thoſe of the Hebrews.

It is generally believed that the Greeks derived their muſical ſyſtem from the Egyptians. Pythagoras and other philoſophers and theoriſts are ſaid to have ſtudied muſic in Egypt. It would, however, appear that the Egyptian influence upon Greece, as far as regards this art, has been overrated. Not only have the more perfect Egyptian inſtruments,—ſuch as the larger harps, the tamboura,—never been much in favour with the Greeks; but almoſt all the ſtringed inſtruments which the Greeks poſſeſſed are ſtated to have been originally derived from Aſia. Strabo (Book x., c. 3) ſays: "Thoſe who regard "the whole of Aſia, as far as India, as conſecrated to Bacchus, point "to that country as the origin of a great portion of the preſent muſic. "One author ſpeaks of 'ſtriking forcibly the Aſiatic kithara,' another "calls the pipes Berecynthian and Phrygian. Some of the inſtruments "alſo have foreign names, as Nabla, Sambuka, Barbiton, Magadis, "and many others."

We know at preſent little more of these inſtruments than that they were in uſe in Greece. Of the Magadis it is even not ſatisfactorily aſcertained whether it was a ſtringed or a wind inſtrument. The other three are known to have been ſtringed inſtruments. But they cannot have been anything like ſuch univerſal favourites as the lyre, ſince this inſtrument,--and perhaps the *trigonon*, are almoſt the only

ſtringed inſtruments repreſented in the Greek paintings on pottery and other monumental records. If, as might perhaps be ſuggeſted, their taſte for beauty of form induced the Greeks to repreſent the elegant lyre in preference to other ſtringed inſtruments, we might at leaſt expect to meet with the harp,—an inſtrument which equals, if it does not ſurpaſs, the lyre in elegance of form.

The repreſentation of Polyhymnia with a harp, depicted on a ſplendid Greek vaſe now in the Munich Muſeum, may be noted as an exceptional inſtance. This valuable relic dates from the time of Alexander the Great. The inſtrument reſembles in conſtruction as well as in ſhape the Aſſyrian harp. It has thirteen ſtrings. Polyhymnia is touching them with both hands, uſing the right hand for the treble and the left for the baſs. She is ſeated, holding the inſtrument in her lap. (Fig. 24.) Even the little tuning-pegs, which in

Fig. 24.—Grecian Harp and Lyres.

number are not in accordance with the ſtrings, are placed on the ſound-board at the upper part of the frame, exactly as on the Aſſyrian harp. If then we have here the Greek harp, it was more likely an importation from Aſia than from Egypt. In ſhort, as far as can be aſcertained, the moſt complete of the Greek inſtruments appear to be of Aſiatic origin. Eſpecially from the nations who inhabited Aſia Minor the Greeks are ſtated to have adopted ſeveral of their popular ones; and it would appear that nearly every one of theſe nations

excelled in the uſe of ſome particular inſtrument. Thus we read of the ſhort and ſhrill-ſounding pipes of the Carians; of the Phrygian paſtoral flute, conſiſting of ſeveral tubes united; of the three-ſtringed *kithara* of the Lydians; and ſo on.

The Greeks called the harp *kinyra*, and this may be the reaſon why in the Engliſh tranſlation of the Bible the *kinnor* of the Hebrews, the favourite inſtrument of King David, is rendered *harp*.

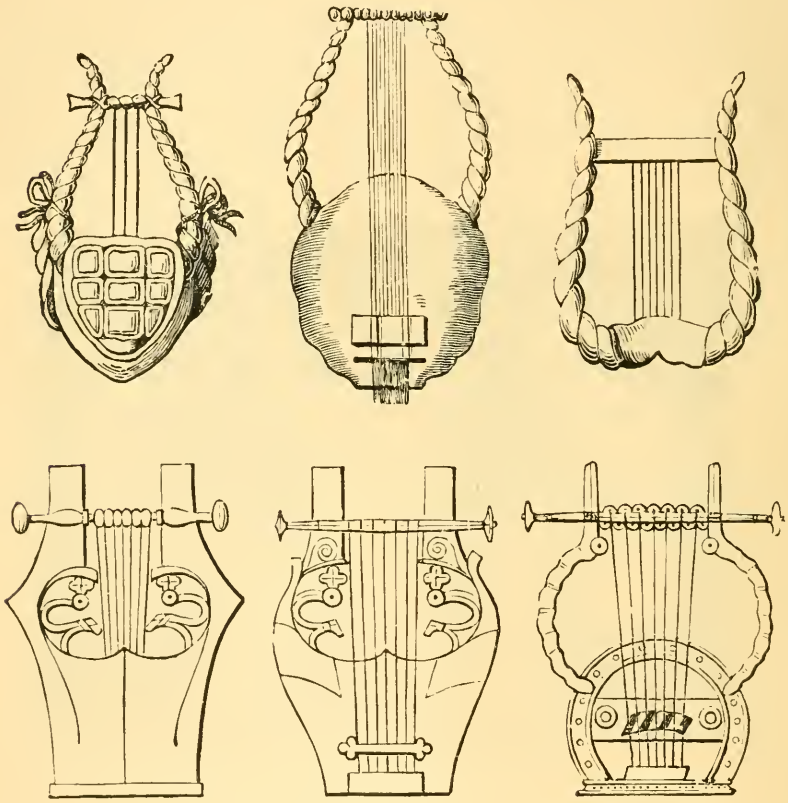


Fig. 25.—Grecian Lyres.

The Greeks had Lyres of various kinds, more or leſs differing in conſtruction, form, and ſize, and diſtinguiſhed by different names, ſuch as *lyra*, *kithara*, *chelys*, *phorminx*, etc. *Lyra* appears to have implied inſtruments of this claſs in general, and alſo the lyre with a body oval at the baſe, and held upon the lap or in the arms of the performer; while the *kithara* had a ſquare baſe and was held againſt the breaſt.

Theſe diſtinctions have, however, not been ſatisfactorily aſcertained. The *chelys* was a ſmall lyre with the body made of the ſhell of a tortoiſe, or of wood in imitation of the tortoiſe. The *phorminx* was a large lyre. Like the *kithara*, it was uſed, at an early period, ſingly, for accompanying recitations. It is, however, recorded that the *kithara* was employed for ſolo-performances as early as B.C. 700.

The deſign on the Grecian vaſe at Munich, already alluded to, repreſents the Nine Muſes, of which three are given in the engraving, Fig. 24, viz., Polyhymnia with the harp, and Kalliope and Erato with lyres. Various kinds of lyres, more or leſs ornamented, are ſhown in the engraving, Fig. 25. It will be obſerved that ſome are provided with a bridge, while others are without it. The largeſt ones were held on or between the knees, or were attached to the left arm by means of a band, to enable the performer to uſe his hands without impediment. The ſtrings, made of catgut or ſinew, were more uſually twanged with a *plektron* than merely with the fingers. The *plektron* was a ſhort ſtem of ivory or metal pointed at both ends.

A fragment of a Greek lyre, which was found in a tomb near Athens, is depoſited in the Britiſh Muſeum. The two pieces conſtituting its frame are of wood. Their length is about 18 inches, and the length of the croſſ-bar at the top is about 9 inches. The inſtrument is, however, in a condition too dilapidated and imperfect to be of any eſſential uſe to the muſical inquirer.

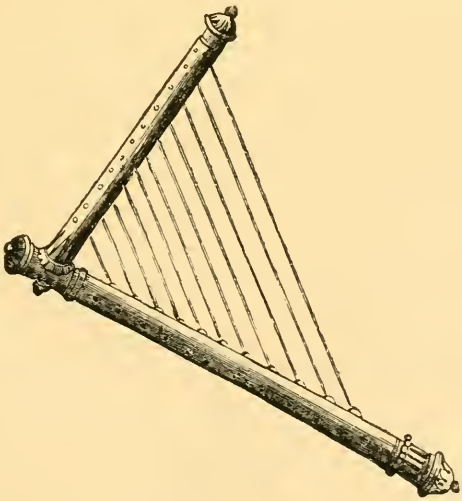


Fig. 26.—Trigonon.

The *trigonon* conſiſted originally of an angular frame, to which the ſtrings were affixed (Fig. 26). In the courſe of time a third bar was added to reſiſt the tenſion of the ſtrings, and its triangular frame reſembled in ſhape the Greek Delta. Subſequently it was ſtill further improved, the upper bar of the frame being made ſlightly curved, whereby the inſtrument obained greater ſtrength and more elegance of form (Fig. 27).

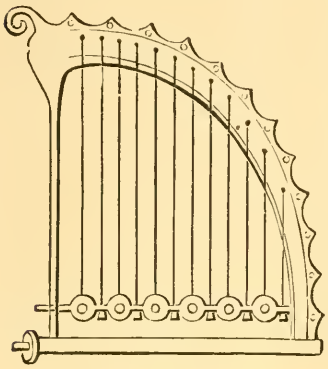


Fig 27.—A Species of Trigonon.

The *magadis*, alſo called *pektis*, had twenty ſtrings, which were tuned in octaves, and therefore produced only ten tones. It appears to have been a ſort of dulcimer, but reliable information reſpecting its conſtruction is wanting. There appears to have been alſo a ſort of bagpipe in uſe, called *magadis*, of which nothing certain is known. Poſſibly, the ſame name may have been applied to two different inſtruments.

The *epigonion* reſembled the *magadis*, but it had forty ſtrings, probably producing twenty tones, each tone having two ſtrings in uniſon or in octaves.

The *barbiton* was likewiſe a ſtringed inſtrument of this kind. The *ſambyke* is recorded to have been invented by Ibykos, B.C. 540. The *ſimmikon* had 35 ſtrings, and derived its name from its inventor, Simos, who lived about B.C. 800. It probably was a kind of dulcimer. The *nabla* had only two ſtrings. It probably reſembled the *nebel* of the Hebrews, of which but little is known with certainty. The *pandoura* is ſuppoſed to have been a kind of lute with three ſtrings. Several of the inſtruments juſt noticed were uſed in Greece, chiefly by muſicians who had immigrated from Aſia; they can therefore hardly be conſidered as national muſical inſtruments of the Greeks.

The Monochord had, as its name implies, only a ſingle ſtring, and was uſed in teaching ſinging and the laws of acouſtics.

The flute, *aulos*, which was a highly popular inſtrument, differed in conſtruction from the flutes and pipes of the ancient Egyptians. Inſtead of being blown through a hole at the ſide near the top, it was held like a flageolet, and a vibrating reed was inſerted into the mouthpiece, ſo that it might be more properly deſcribed as a kind of oboe or clarionet. However, the Greeks deſignated by the name of *aulos* all wind-inſtruments of the flute and oboe kind, ſome of which were

conſtructed like the flageolet or like our antiquated *flûte à bec*. The ſingle flute was called *monaulos*, and the double one *diaulos*. Remarkable is the *phorbeia*, a bandage of leather tied over the mouth of the flutiſt (Fig. 35). The *phorbeia* had two holes into which the tubes were inſerted. It may have ſerved for a twofold purpoſe; namely, to afford the performer greater facility in holding the inſtrument in its proper poſition, and to increaſe his power of blowing into the tube. For the purpoſe of arranging the intervals of the ſcale according to the character of the muſic which was to be performed, little plugs were uſed to cloſe certain finger-holes. A *diaulos*, which was found in a tomb at Athens, is in the Britiſh Muſeum. The wood of which it is made ſeems to be cedar. The tubes are fifteen inches in length. Each tube has a ſeparate mouth-piece and ſix finger-holes, five of which are at the upper ſide, and one is underneath.

Fig 28.—Diaulos.

The *ſyrinx*, or Pandean pipe, had from three to nine tubes, but ſeven was the uſual number. The ſtraight trumpet, *ſalpinx*, and the curved horn, *keras*, made of braſs, were uſed excluſively in war. The ſmall hand-drum, called *tympanon*, reſembled in ſhape our tambourine, but was covered with parchment at the back as well as at the front. The *kymbala* were made of metal, and reſembled our ſmall cymbals. The *krotala* were almoſt identical with our caſtanets, and were made of wood or metal.

It is unneceſſary to recount the well-known mythological traditions of the ancients (Romans as well as Greeks) referring to the origin of their favourite muſical inſtruments. Suffice it to notice one or two. Hermes (Mercury) was believed to have invented the *lyra*, and Apollo the *kithara*. The invention of the trumpet and flute was attributed to Athena (Minerva); and that of the *ſyrinx* to Pan.

Musical Instruments of the Etruscans and Romans.

The Romans are recorded to have derived ſome of their moſt popular inſtruments originally from the Etruſcans,—a people which at an early period excelled all other Italian nations in the cultivation of the arts as well as in ſocial refinement, and which poſſeſſed muſical inſtruments ſimilar to thoſe of the Greeks. It muſt, however, be remembered that many of the vaſes and other ſpecimens of art which have been found in Etruſcan tombs, and on which delineations of lyres and other inſtruments occur, are ſuppoſed to be productions of Greek artiſts, whoſe works were obtained from Greece by the Etruſcans, or who were induced to ſettle in Etruria.

The flutes of the Etruſcans were not unfrequently made of ivory; thoſe uſed in religious ſacrifices were of box-wood, of a ſpecies of the lotus, of aſs' bone, bronze and ſilver. A bronze flute, ſomewhat reſembling our flageolet, has been found in a tomb; likewiſe a huge trumpet of bronze. An Etruſcan *cornu*, which is depoſited in the Britiſh Muſeum (Fig. 29), meaſures about four feet in length.

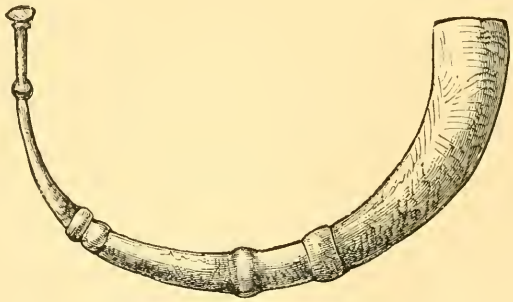


Fig. 29.—Etruscan Cornu.

To the Etruſcans is alſo attributed the invention of the Hydraulic Organ. The Greeks poſſeſſed, however, a ſimilar contrivance, which they called *hydraulos*, *i.e.* water-flute, and which probably was identical with the *organum hydraulicum* of the Romans. The inſtrument ought more properly to be regarded as a pneumatic organ (or wind-organ), for the ſound was produced by the current of air through the pipes,—the water applied ſerving merely to give the neceſſary preſſure to the bellows and to regulate their action. There is no poſitive proof that

keys were uſed, as on our organ—or rather, as the large wooden keys of our organ-pedal, with the omiſſion of the ſemi-tones,—although the hydraulic organ is thus depicted in ſome illuſtrations given in the Hiſtories of Muſic by Hawkins, Forkel, and others. Theſe illuſtrations have not been made from actual ſpecimens, but merely from the rather obſcure deſcriptions by ancient writers, tranſmitted to us. The pipes were probably cauſed to ſound by means of ſtops, ſomewhat reſembling thoſe on our organ, which were drawn out or puſhed in. The conſtruction was evidently but a primitive contrivance, contained in a caſe which could be carried by one or two perſons, and which was placed on a table. The higheſt degree of perfection which the hydraulic organ obtained with the ancients is probably ſhown in a repreſentation on a coin of the Emperor Nero, in the Britiſh Muſeum, for it dates as late as the firſt century of the Chriſtian era (Fig. 30). Only ten pipes are given to it, and there is no indication of any key board, which would probably have been ſhown had it exiſted. The man ſtanding at the ſide and holding a laurel leaf in his hand, is ſurmiſed to repreſent a victor in the exhibitions of the circus or the amphitheatre. The hydraulic organ probably was played on ſuch occaſions; and the medal containing an impreſſion of it, may have been beſtowed upon the victor.

Fig. 30.—Organum Hydraulicum.

During the time of the Republic, and eſpecially ſubſequently under the reign of the Emperors, the Romans adopted many new inſtruments from Greece, Egypt, and even from Weſtern Aſia; without, however, eſſentially improving any of their importations.

Their moſt favourite ſtringed inſtrument was the lyre, of which they had various kinds, called, according to their form, and arrangement of ſtrings *lyra*, *cithara*, *chelys*, *teſtudo*, *fidis* (or *fides*), and *cornu*. The name *cornu* was given to the lyre when the ſides of the frame terminated at the top in the ſhape of two horns.

Fig. 31.—Roman Lyre.

The *barbitos* was a kind of lyre with a large body, which gave the inſtrument ſomewhat the ſhape of the Welſh *crwth*.

The *pſalterium* was a kind of lyre of an oblong ſquare ſhape. Like moſt of the Roman lyres, it was played with a rather large plectrum. The ſimple inſtrument ſhown in the engraving, Fig. 32, is ſuppoſed to be the *pſalterium*. The repreſentation from which it has been taken was found in Herculaneum. Some hiſtorians deſcribe the *pſalterium* as an inſtrument of the lute kind; but this appears improbable; moſt likely it was the ſquare lyre.

The *trigonum* was the ſame as the Greek *trigonon*, and was probably originally derived from Egypt. It is recorded that a certain muſician of the name of Alexander Alexandrinus was ſo admirable a performer upon it, that when exhibiting his ſkill in Rome, he created the greateſt *furore*. The name of the performer implies that he was a native of Alexandria; his inſtrument therefore, perhaps, more reſembled the Egyptian trigonum, Fig. 6, than the Roman. Sophocles calls the

Fig. 32.—The supposed Psalterium. Roman.

Fig. 33.—Trigonum. Roman.

trigonum a Phrygian inſtrument. A repreſentation of a ſpecimen with a front pillar like that ſhown in the woodcut, Fig. 33, has been found in Herculaneum. Leſs common, and derived from Aſia, were the *ſambuca* and *nablia*, the exact conſtruction of which is, however, unknown.

The flute, *tibia*, was originally made of the ſhin bone, and had a mouth-hole, and four finger-holes. Its ſhape was retained even when, at a later period, it was conſtructed of other ſubſtances than bone. The *tibia gingrina* conſiſted of a long and thin tube of reed with a mouth-hole at the ſide of one end. The *tibia obliqua* and *tibia vaſca*

were provided with mouth-pieces affixed at a right angle to the tube,—a contrivance ſomewhat ſimilar to that on our baſſoon. The *tibia longa* was eſpecially uſed in religious worſhip. The *tibia curva* was curved at its broadeſt end. The *tibia ligula* appears to have reſembled our flageolet. The *calamus* was nothing more than a ſimple pipe cut off the kind of reed which the ancients uſed as a pen for writing.

The Romans had double flutes as well as ſingle flutes. The double flute conſiſted of two tubes united, either ſo as to have a mouth-piece in common, or to have each a ſeparate mouth-piece. If the tubes were exactly alike, the double flute was called *Tibiæ pares*; if they were different from each other, *Tibiæ impares*. Little plugs, or ſtoppers, were inſerted into the finger holes to regulate the order of intervals. The *tibia* was made in various ſhapes. The *tibia dextra* was uſually

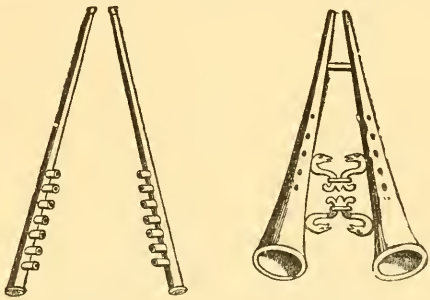


Fig. 34.—Tibiæ Pares. Roman.

Fig. 35.—Tibiæ Pares, with the Capistrum.

conſtructed of the upper and thinner part of a reed; and the *tibia ſiniſtra*, of the lower and broader part. The performers uſed alſo the *capiſtrum*,—a bandage round the cheeks, identical with the *phorbeia* of the Greeks.

Fig. 36.—Roman Girl playing the Tibia.

The Britiſh Muſeum contains a moſaic figure of a Roman girl playing the *tibia*, which is ſtated to have been diſinterred, in the year 1823, on the Via Appia, a famous ancient road in Italy (Fig. 36). Here the *holmos*, or mouth-piece, ſomewhat reſembling the reed of our oboe, is diſtinctly ſhown. The finger-holes, probably four, are not indicated, although they undoubtedly exiſted on the inſtrument.

Furthermore, the Romans had two kinds of Pandean pipes, viz. the *ſyrinx* and the *fiſtula*. The bagpipe, *tibia utricularis*, is ſaid to have been a favourite inſtrument of the emperor Nero.

The *cornu* was a large horn of bronze, curved. The performer held it under his arm with the broad end upwards over his ſhoulder.

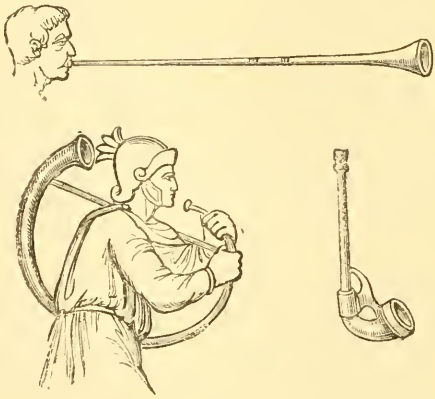


Fig. 37.—The Tuba, Cornu, and Lituus.

The *tuba* was a ſtraight trumpet. Both the *cornu* and the *tuba* were employed in war to convey ſignals. The ſame was the caſe with the *buccina*,—originally a conch ſhell, and afterwards a ſimple horn of an animal,—and the *lituus*, which was bent at the broad end, but otherwiſe ſtraight. The *lituus* ſomewhat reſembled the German Zinke.

The *tympanum* reſembled the tambourine, and was beaten like the latter with the hands. Among the Roman Inſtruments of Percuſſion deſerves to be noticed the *ſcabillum*, which conſiſted of two plates combined by means of a ſort of hinge. The *ſcabillum* was faſtened under the foot and trodden in time, to produce certain rhythmical effects in muſical performances. The *cymbalum* conſiſted of two metal plates ſimilar to our cymbals. The *crotala* and the *cruſmata* were kinds of caſtanets, the former being oblong and of a larger ſize than the latter.

38.—Crotala. Roman.

The Romans had alſo a *triangulum*, which reſembled the triangle occaſionally uſed in our orcheſtra. The *ſiſtrum* they derived from Egypt with the introduction of the worſhip of Iſis. Metal bells, arranged according to a regular order of intervals, and placed in a frame, were called *tintinnabula*. The *crepitaculum* appears to have been a ſomewhat ſimilar contrivance on a hoop with a handle.

Through the Greeks and Romans we have the firſt well-authenticated proof of muſical inſtruments having been introduced into Europe from Aſia. The Romans, in their conqueſts, undoubtedly made their

muſical inſtruments known, to ſome extent, alſo in Weſtern Europe. But the Greeks and Romans are not the only nations which introduced Eaſtern inſtruments into Europe. The Phœnicians, at an early period, colonized Sardinia, and traces of them are ſtill to be found on that iſland. Among theſe is a peculiarly conſtructed double-pipe called *lionedda* or *launedda*. Again, at a much later period the Arabs introduced ſeveral of their inſtruments into Spain, from which country they became known in France, Germany, and England. Alſo the Cruſaders, during the 11th and 12th centuries, may have helped to familiarize the Weſtern European nations with inſtruments of the Eaſt.

Muſical Inſtruments of the Chineſe.

Allowing for any exaggeration as to chronology, natural to the lively imagination of Aſiatics, there is no reaſon to doubt that the Chineſe poſſeſſed long before our Chriſtian era ſeveral of their popular muſical inſtruments to which they attribute a fabulouſly high antiquity. Among the Chineſe we meet with an ancient tradition, according to which they obtained their muſical ſcale from a miraculous bird, called Foung-hoang, which appears to have been a ſort of Phœnix. When Confucius, the famous philoſopher of the Chineſe, who lived about B.C. 500, happened to hear on a certain occaſion ſome divine Chineſe muſic, he became ſo greatly enraptured that he could not take any food for three months afterwards. The ſounds which produced this effect were thoſe of Kouei, the Orpheus of the Chineſe, whoſe performance on the *king*,—a kind of harmonicon conſtructed of ſlabs of ſonorous ſtone—would draw wild animals around him, and make them ſubſervient to his will. As regards the invention of muſical inſtruments, the Chineſe have various traditions. In one of theſe we are told that the origin of ſome of their moſt popular inſtruments dates from the period when China was under the dominion of heavenly ſpirits, called Ki. Another aſſigns the invention of ſeveral ſtringed inſtruments to the great Fohi, called "The Son of Heaven," who was the founder of the Chineſe empire, and who lived about B.C. 3000, which was long after the dominion of the Ki, or ſpirits. Again, another tradition holds that the moſt important inſtruments, and ſyſtematic arrangements of ſounds, are an invention of Niuva, a ſupernatural female, who lived at the time of Fohi, and who was a virgin-mother.

According to their hiſtorical records, the Chineſe poſſeſſed their much-eſteemed *king* 2200 years before our Chriſtian era, and employed

it for accompanying ſacred ſongs of praiſe. It was regarded as a ſacred inſtrument. During religious obſervances, at the ſolemn moment when the *king* was ſounded, ſticks of incenſe were burnt. It was, likewiſe, played before the emperor, early in the morning when he awoke. The Chineſe have long ſince conſtructed various kinds of the *king*, by uſing

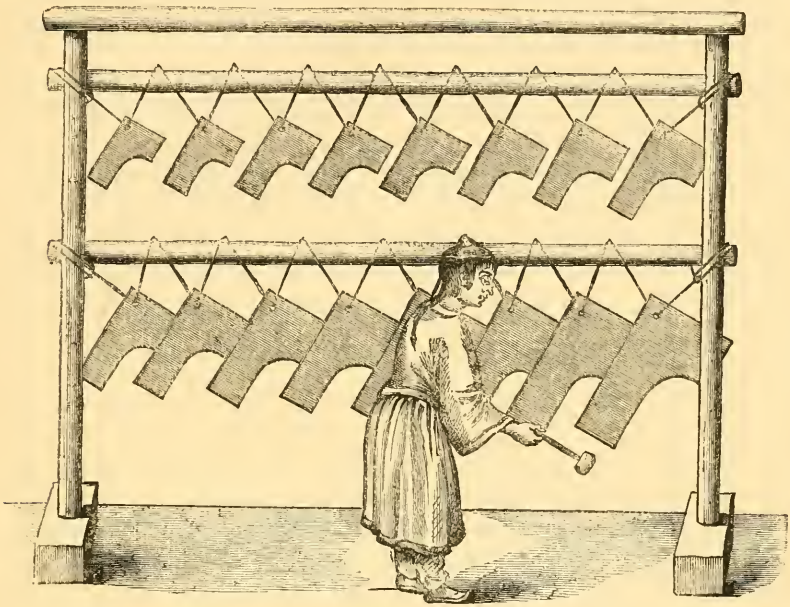


Fig. 39.—King. Chinese.

different ſpecies or ſtones. Their moſt famous ſtone ſelected for this purpoſe is called *yu*. It is not only very ſonorous but alſo beautiful in appearance. The *yu* is found in mountain ſtreams and crevices of rocks. The largeſt ſpecimens found meaſure from two to three feet in diameter, but of this ſize ſpecimens rarely occur. The *yu* is very hard and heavy. Some European mineralogiſts, to whom the miſſionaries tranſmitted ſpecimens for examination, pronounce it to be a ſpecies of agate. It is found of different colours, and the Chineſe appear to have preferred in different centuries particular colours for the *king*. At the middle of the laſt century, for inſtance, the faſhionable colour of the *yu* uſed for the *kings* played at the court in Peking, was white, reſembling whey; although the blue, red, yellow, and green ſtones of this kind were likewiſe much eſteemed, eſpecially if they were of uniform colour without ſhades or ſtreaks.

The Chineſe conſider the *yu* particularly valuable for muſical purpoſes, becauſe it always retains exactly the ſame pitch. All other

muſical inſtruments, they ſay, are in this reſpect unreliable; but the tone of the *yu* is neither influenced by cold nor heat, nor by humidity, nor dryneſs.

There are, beſides the *yu*, three other ſpecies of ſonorous ſtone eſteemed in China. Of theſe the *hiang-che* is eſpecially noteworthy on account of its metallic ſound.

The ſtones uſed for the *king* have been cut during different centuries in various groteſque ſhapes. Some repreſent animals:—as, for inſtance, a bat with outſtretched wings; two fiſhes placed ſide by ſide. Others are cut in the ſhape of an ancient Chineſe bell. The angular ſhape ſhown in the engraving, Fig. 39, appears to be the oldeſt, and is ſtill retained in the ornamented ſtones of the *pien-king*, which is a more modern inſtrument than the *king*. The tones of the *pien-king* are attuned according to the Chineſe intervals called *lu*, of which there are twelve in the compaſs of an octave. The ſame is the caſe with the other Chineſe inſtruments of this claſs. They vary, however, in pitch. The pitch of the *ſoung-king*, for inſtance, is four intervals lower than that of the *pien-king*.

Sonorous ſtones have always been uſed by the Chineſe also ſingly, as rhythmical inſtruments. Such a ſingle ſtone is called *tſe-king*. Probably certain curious relics belonging to a temple in Peking, erected for the worſhip of Confucius, ſerve a ſimilar purpoſe. In one of the outbuildings of the temple are ten ſonorous ſtones, ſhaped like drums, which are aſſerted to have been cut about three thouſand years ago. The very ancient Chineſe characters engraven upon them are nearly obliterated.

It may not be out of place to notice here that alſo of the ſonorous ſtones of European countries we poſſeſs ſome curious old records. Pliny mentions the *chalcophonos* (*i.e.* "ſounding like metal") as a black ſtone which, when ſtruck, clinks like braſs. This is probably identical with our clinkſtone, or phonolite, generally of a greyiſh colour, which, when ſtruck with a hammer, produces a metallic ſound. Pliny recommends tragic actors to carry the *chalcophonos* about them; but he does not ſay what advantage they may expect to derive therefrom. Perhaps the advice is only offered to poor actors who have nothing better to chink in their pockets. The *chalcophonos* appears to reſemble the Chineſe ſonorous ſtone *hiang-che*, which is alſo found of a black colour.

The ancient Chineſe had ſeveral kinds of bells, frequently arranged in ſets, ſo as to conſtitute a muſical ſcale. The Chineſe name for the bell is *tchung*. At an early period they had a ſomewhat ſquare-ſhaped bell called *té-tchung*. Like other ancient Chineſe bells, it was made of copper alloyed with tin, the proportion being one pound of tin to ſix of copper.

The *té-tchung*, which is alſo known by the name of *piao*, was principally uſed to indicate the time and diviſions in muſical performances. It had a fixed pitch of ſound, and ſeveral of theſe bells, attuned to a certain order of intervals, were not unfrequently ranged in a regular ſucceſſion, thus forming a muſical inſtrument which was called *pien-tchung* (Fig. 40). The muſical ſcale of the ſixteen bells

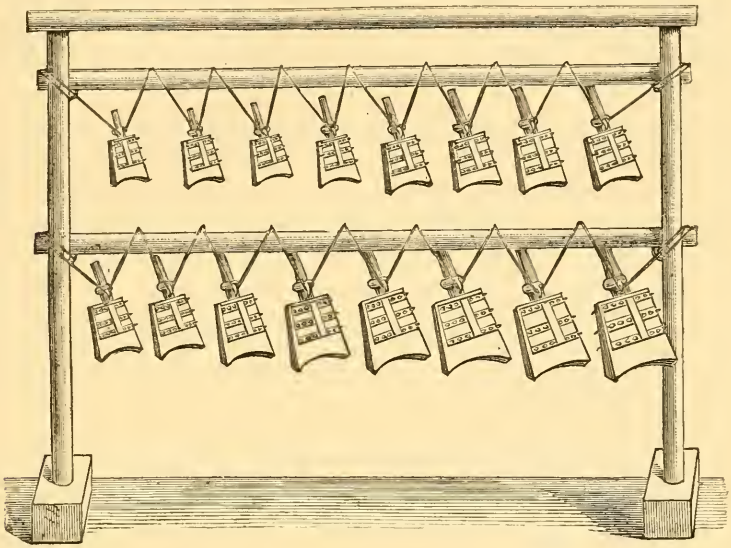


Fig. 40.—Pien-tchung. Chinese.

which the *pien-tchung* contained, was the ſame as that of the *king* before mentioned.

The *hiuen-tchung* was, according to popular tradition, already enumerated with the antique inſtruments at the time of Confucius. It came into popular uſe during the Han dynaſty (from B.C. 200 until A.D. 200). It was of a peculiar oval ſhape, and had nearly the ſame quaint ornamentation as the *té-tchung*; this conſiſted of ſymbolical figures. There were four diviſions on it, each containing nine mammals. Its mouth was creſcent-ſhaped. Every figure on it had a deep meaning referring to the ſeaſons and to the myſteries of the Buddhiſt religion. The largeſt

Fig. 41.—Hiuen-tchung.

hiuen-tchung was about twenty inches in length; like the *té-tchung*, it was founded by means of a small wooden mallet with an oval knob. None of the bells of this description had a clapper. It would, however, appear that the Chinese had at an early period some kind of bell provided with a wooden tongue. It was used for military purposes as well as for calling the people together when an imperial messenger had to promulgate his sovereign's commands. An expression of Confucius is recorded to the effect that he wished to be "A wooden-tongued bell of Heaven," *i.e.* a herald of heaven to proclaim the divine purposes to the multitude.

Again, the Chinese employed in ancient times a bell for the same purpose for which we use the tuning-fork or pitch-pipe; and this bell served also as a certain measure and weight commonly required in business transactions. One specimen appears to have been kept in a royal hall, or temple, to be referred to as a standard for the others.

The *fang-hiang* was a kind of wood-harmonicon. It contained sixteen wooden slabs of an oblong-square shape, suspended in a wooden frame elegantly decorated. The slabs were arranged in two tiers, one above the other, and were all of equal length and breadth, but differed in thickness.

The *tchoung-tou* consisted of twelve slips of bamboo and was used for beating time and for rhythmical purposes. The slips being banded together at one end could be expanded somewhat like a fan. The Chinese state that they used the *tchoung-tou* for writing upon before they invented paper.

The *ou*, likewise an ancient Chinese instrument of percussion, but still in use, is made of wood in the shape of a crouching tiger. It is hollow, and along its back are about twenty small pieces of metal,

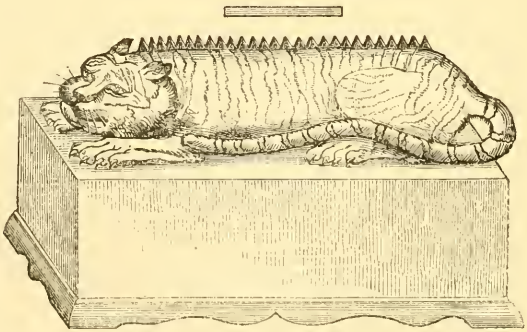


Fig. 42.—Ou. Chinese.

pointed, and in appearance not unlike the teeth of a ſaw. The performer ſtrikes them with a ſort of plectrum reſembling a bruſh, or with a ſmall ſtick called *tchen*. Occaſionally the *ou* is made with pieces of metal ſhaped like reeds. Indeed, there appear to be ſeveral varieties of this inſtrument, as may be ſurmiſed from one of its figures, tranſmitted to us repreſenting a cat, or ſome ſuch member of the feline ſpecies.

The ancient *ou* was conſtructed with only ſix tones which were attuned thus,—*f*, *g*, *a*, *c*, *d*, *f*. The inſtrument appears to have become deteriorated in the courſe of time; for, although it has gradually acquired as many as twenty-ſeven pieces of metal, it evidently ſerves at the preſent day more for the production of rhythmical noiſe than for the execution of any melody. The *ou* is made of a ſpecies of wood called *kieou* or *tſieou*. The tiger reſts generally on a hollow wooden pedeſtal, about three feet ſix inches long, which ſerves as a ſoundboard.

The *tchou*, likewiſe an inſtrument of percuſſion, was made of the wood of a tree called *kieou-mou*, the ſtem of which reſembles that of the pine, and whoſe foliage is much like that of the cypreſs. It was conſtructed of boards about three-quarters of an inch in thickneſs. In the middle of one of the ſides was an aperture into which the hand was paſſed for the purpoſe of holding the handle of a wooden hammer, the end of which entered into a hole ſituated in the bottom of the *tchou*. The handle was kept in its place by means of a wooden pin, on which it moved right and left when the inſtrument was ſtruck with the hammer. The Chineſe aſcribe to the *tchou* a very high antiquity, as they almoſt invariably do with any invention of theirs whenever the date of its origin is unknown to them.

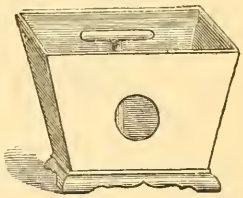


Fig. 43.—Tchou

The *po-fou* was a drum, about one foot four inches in length, and ſeven inches in diameter. It had a parchment at each end, which was prepared in a peculiar way by being boiled in water. The *po-fou* uſed to be partly filled with a preparation made from the huſk of rice. This was done to mellow the ſound. The Chineſe name for the drum is *kou*. The ancient Chineſe had various kinds of drums, ſome of which were elaborately and groteſquely ornamented.

The *kin-kou*, a large drum fixed on a pedeſtal which raiſes it above ſix feet from the ground, (Fig. 44), is embelliſhed with ſymbolical deſigns. A ſimilar drum on which natural phenomena are depicted, is called *lei-kou*; and another of the kind, with figures of certain birds and beaſts which are regarded as ſymbols of long life, is called *ling-kou*, and alſo *lou-kou*.

Fig. 44.—Kin-Kou. Chinese.

The flutes, *ty*, *yo*, and *tché* were generally made of bamboo. The *koan-tſee* was a Pandean pipe containing twelve tubes of bamboo. The *ſiao*, likewiſe a Pandean pipe, contained ſixteen tubes. The *pai-ſiao* differed from the *ſiao* inaſmuch as the tubes were inſerted into an oddly-ſhaped caſe highly ornamented with groteſque deſigns and ſilken appendages.

Furthermore, the Chineſe conſtructed, at a very early period, a curious wind-inſtrument, called *hiuen*. It was made of baked clay, and had five finger-holes, three of which were placed on one ſide and two on the oppoſite ſide (Fig. 45). Its tones were in conformity with the pentatonic

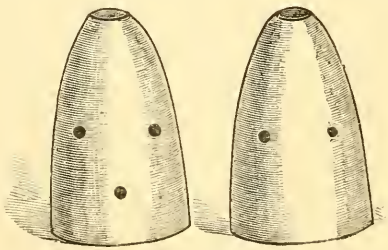


Fig. 45.—Hiuen.

ſcale. The reader unacquainted with the pentatonic ſcale may aſcertain its character by playing on the pianoforte the ſcale of C major with the omiſſion of *f* and *b* (the *fourth* and *ſeventh*); or by ſtriking the black keys in regular ſucceſſion from f-ſharp to the next f-ſharp above or below.

Another curious wind-inſtrument of high antiquity, the *cheng*, is ſtill in uſe (*See* Fig. 116). Formerly it had either 13, 19, or 24 tubes, placed in a calabaſh; and a long curved tube ſerved as a mouth-piece. In olden time it was called *yu*.

The ancient ſtringed inſtruments, the *kin* and *chê*, were of the dulcimer kind. They are ſtill in uſe, and there are ſpecimens of them in the Muſeum. Some account of them will be found in the Catalogue.

The Buddhiſts introduced from Thibet into China their god of muſic, who is repreſented as a rather jovial-looking man, with a mouſtache and an imperial, playing the *pepa*, a kind of lute with four ſilken ſtrings. The Kalmuks, in the vicinity of the Caſpian Sea, adore the ſame divinity, called Maidari. The Kalmuks are Buddhiſts. They invaded Ruſſia in the thirteenth century. In China the Buddhiſt religion obtained a footing during the firſt century of our Chriſtian era. Theſe facts point to a high antiquity for the idol Maidari, the divine muſician.

Perhaps ſome intereſting information reſpecting the ancient Chineſe muſical inſtruments may be gathered from the famous ruins of the Buddhiſt temples *Ongcor-Wat* and *Ongcor-Thôm*, in Cambodia. Theſe ſplendid ruins are ſuppoſed to be above two thouſand years old. At any rate, the circumſtance of their age not being known to the Cambodians ſuggeſts a high antiquity. On the baſ-reliefs with which theſe temples were enriched, are figured muſical inſtruments, which European travellers deſcribe as "flutes, organs, trumpets, and drums, reſembling "thoſe of the Chineſe." Faithful ſketches of theſe repreſentations might, very likely, afford valuable hints to the ſtudent of muſical hiſtory.

Musical Instruments of the Hindus.

In the Brahmin mythology of the Hindus the god Nareda is the inventor of the *vina*, the principal national inſtrument of Hinduſtan. Saraſwati, the conſort of Brahma, may be regarded as the Minerva of the Hindus. She is the goddeſs of muſic as well as of ſpeech; to her is attributed the invention of the ſyſtematic arrangement of the ſounds into a muſical ſcale. She is repreſented ſeated on a peacock and playing on a ſtringed inſtrument of the lute kind. Brahma himſelf we find

depicted as a vigorous man with four handſome heads, beating with his hands upon a ſmall drum; and Viſhnu, in his incarnation as Kriſhna, is repreſented as a beautiful youth playing upon a flute. The Hindus conſtruct a peculiar kind of flute, which they conſider as the favourite inſtrument of Kriſhna. Furthermore, they have the divinity Ganeſa, the god of Wiſdom, who is repreſented as a man with the head of an elephant, holding a *tamboura* in his hands.

It is a ſuggeſtive fact that we find among ſeveral nations in different parts of the world an ancient tradition, according to which their moſt popular ſtringed inſtrument was originally derived from the water.

In Hindu mythology the god Nareda invented the *vina*—the principal national inſtrument of Hinduſtan—which has alſo the name *cach'-hapi*, ſignifying a tortoiſe (*teſtudo*). Moreover, *nara* denotes in Sanſkrit "water," and *Narada*, or *Nareda*, "The Giver of Water."

Like Nareda, ſo Nereus and his fifty daughters, the Nereides, mentioned in Greek mythology, were renowned for their muſical accompliſhments.

The Scandinavian god Odin, the originator of magic ſongs, is mentioned as the ruler of the ſea, and as ſuch he had the name of *Nikarr*. In the depth of the ſea he played the harp with his ſubordinate ſpirits, who occaſionally came up to the ſurface of the water to teach ſome favoured human being their wonderful inſtrument.

Wäinämöinen, the divine player on the Finniſh *kantele*, according to the Kalewala, the old national Epos of the Finns, conſtructed his inſtrument of fiſh-bones. The frame he made out of the bones of the pike; and the teeth of the pike he uſed for the tuning-pegs.

Hermes, it will be remembered, made his lyre, the *chelys*, of a tortoiſe-ſhell.

Jacob Grimm, in his work on German Mythology, points out an old tradition, preſerved in Swediſh and Scotch national ballads, of a ſkilful harper who conſtructs his inſtrument out of the bones of a young girl drowned by a wicked woman. Her fingers he uſes for the tuning ſcrews, and her golden hair for the ſtrings. The harper plays, and his muſic kills the murdereſs. A ſimilar ſtory is told in the old Iſlandic national ſongs; and the ſame tradition has been found ſtill preſerved in the Faroe Iſlands, as well as in Norway and Denmark.

May not the agreeable impreſſion produced by the rhythmical flow of the waves, and the ſoothing murmur of running water, have led various nations, independently of each other, to the wideſpread conception that they obtained their favourite inſtrument of muſic from the water? Or is this notion traceable to a common ſource, dating from a pre-hiſtoric age,—perhaps from the early period when the Aryan race is ſurmiſed to have diffuſed its lore through various countries? Or did

it originate in the old belief of the world, with all its charms and delights, having ariſen from a chaos in which water conſtituted the predominant element?

Howbeit, Nareda, the Giver of Water, was evidently alſo the ruler of the clouds; and Odin had his throne in the ſkies. Indeed, many of the muſical water-ſpirits appear to have been originally conſidered as rain deities. Their muſic may therefore be regarded as derived from the clouds rather than from the ſea. In ſhort, the traditions reſpecting ſpirits and water are not in contradiction to the opinion of the ancient Hindus, that muſic is of heavenly origin, but rather tend to ſupport this opinion.

The earlieſt muſical inſtruments of the Hindus on record, have, almoſt all of them, remained as far as is known, in popular uſe until the preſent day scarcely altered. Beſides theſe, the Hindus poſſeſs ſeveral Arabic and Perſian inſtruments, which are of comparatively modern date in Hinduſtan, they evidently having been introduced into that country ſcarcely a thouſand years ago, at the time of the Mahomedan irruption. There is a treatiſe on muſic extant, written in Sanſkrit, which contains a deſcription of the ancient inſtruments. Its title is *Sângita râthnakara.* If, as may be hoped, it will be tranſlated by a Sanſkrit ſcholar who is at the ſame time a good muſician, we ſhall probably be enabled to aſcertain more exactly which of the Hindu inſtruments of the preſent day are of comparatively modern origin.

Fig. 46.—Vina. Hindustan.

The *vina* is undoubtedly of high antiquity. It has ſeven wire ſtrings, and movable frets which are generally faſtened with wax. Two hollowed gourds, often taſtefully ornamented, are affixed to it for the purpoſe of increaſing the ſonorouſneſs. There are ſeveral kinds of the *vina* in different diſtricts; but the kind repreſented in the illuſtration, Fig. 46, is regarded as the oldeſt. The performer here ſhown is Jeewan Shah, a celebrated virtuoſo on the vina, who lived about a hundred years ago. The Hindus divided their muſical ſcale into intervals ſmaller than our ſemitones. They adopted twenty-two intervals, called *ſruti*, in the compaſs of an octave. The *ſruti* may therefore be compared to our chromatic intervals. But, from an old treatiſe, written by Soma, it is evident that the common ſcale of the Hindus had much the character of the pentatonic order of intervals. As the frets of the *vina* are movable, the performer can eaſily regulate them according to the ſcale, or mode, which he requires for his muſic.

The harp, *chang*, has become almoſt obſolete. If ſome Hindu drawings of it can be relied upon, it had at an early time a triangular frame, and was in conſtruction as well as in ſhape and ſize almoſt identical with the Aſſyrian harp.

The Hindus claim to have invented the violin bow. They maintain that the *ravanaſtron*, one of their old inſtruments played with the bow, was invented about five thouſand years ago, by Ravanon, a mighty king of Ceylon. However this may be, there is a great probability that the fiddle bow originated in Hinduſtan; for, Sanſkrit ſcholars inform us that there are names for it in works which cannot be leſs than from 1500 to 2000 years old. Theſe Sanſkrit names are *kôna*, *gârikâ*, and *parivâdas*. The *kôna* is deſcribed as the rudeſt kind of bow, conſiſting of a cane, perhaps without any hair. It may have been made rough either by ſmall inciſions, or by the application of ſome kind of roſin. Howbeit, anyone may convince himſelf that a ſtring—eſpecially if it is of ſilk, as the ſtrings of Aſiatic inſtruments frequently are—may be made to ſound by the friction of a long rod like that in the hand of the Aſſyrian muſician, Fig. 16, drawn over it like a bow. The non-occurrence of any inſtrument played with a bow on the monuments of the nations of antiquity is by no means ſo ſure a proof as has generally been ſuppoſed, that the bow was unknown. The fiddle, in its primitive condition, muſt have been a poor contrivance. It probably was deſpiſed by players who could produce better tones with greater facility, by twanging the ſtrings with their fingers, or with a plectrum. Thus it may have remained through many centuries without experiencing any material improvement. It muſt alſo be borne in mind that the monuments tranſmitted to us chiefly repreſent hiſtorical events, religious ceremonies, and royal entertainments. On ſuch occaſions inſtruments

of a certain kind only were uſed, and theſe we find repreſented; while others, which may have been even more common, never occur. In two thouſand years time people will poſſibly maintain that ſome highly perfected inſtrument popular with them was entirely unknown to us, becauſe it is at preſent in ſo primitive a condition, that no one hardly notices it. If the *ravanaſtron* was an importation of the Mahomedans, it would moſt likely bear ſome reſemblance to the Arabian and Perſian inſtruments, and it would be found rather in the hands of the higher claſſes, in the towns; whereas it is principally met with among the lower order of people, in iſolated and mountainous diſtricts. Moreover, it is remarkable that the moſt ſimple kind of *ravanaſtron*,—there are now-a-days ſome varieties of this inſtrument,—is almoſt identical with the Chineſe fiddle called *ur-heen*. This ſpecies has only two ſtrings, and its body conſiſts of a ſmall block of wood, hollowed out, and covered with the ſkin of a ſerpent. The *ur-heen* has not been mentioned among the moſt ancient inſtruments of the Chineſe, ſince there is no evidence of its having been known in China before the introduction of the Buddhiſt religion into that country. From indications, which to point out would lead too far here, it would appear that ſeveral inſtruments found in China originated in Hinduſtan. From Hinduſtan and Thibet they ſeem to have been gradually diffuſed, more or leſs altered in the courſe of time, in the Eaſt as far as Japan.

Another curious Hindu inſtrument, probably of very high antiquity, is the *poongi*, alſo called *toumrie* and *magoudi*. It conſiſts of a gourd, or of the Cuddos nut, hollowed, into which two pipes are inſerted. The *poongi* therefore ſomewhat reſembles in appearance a bagpipe. It is generally uſed by the *Sampuris*, or ſnake charmers, who play upon it when they exhibit the antics of the Cobra di Capello. The name *magoudi*, given in ſome diſtricts to this inſtrument, rather tends to corroborate the opinion of ſome muſical hiſtorians that the *magadis* of the ancient Greeks was a ſort of double-pipe, or bagpipe.

Many inſtruments of Hinduſtan are known by different names in different diſtricts; and, beſides, there are varieties of them. On the whole, the Hindus poſſeſs about fifty inſtruments. To deſcribe them properly would fill a volume. Some, which are in the Muſeum, will be found noticed in the Catalogue.

Musical Instruments of the Persians and Arabs.

Of the muſical inſtruments of the ancient Perſians, before the Chriſtian era, ſcarcely anything is known. It may, however, be ſur-

miſed that they cloſely reſembled thoſe of the Aſſyrians, and probably alſo thoſe of the Hebrews.

The harp, *chang*, in olden time a favourite inſtrument of the Perſians, has gradually fallen into diſuetude. The illuſtration of a ſmall harp given in the woodcut Fig. 47 has been ſketched from the celebrated old ſculptures which exiſt on a ſtupendous rock, called Tackt-i-Bostan, ſituated in the vicinity of the town of Kermanſhah. Theſe ſculptures are ſaid to have been executed during the lifetime of the Perſian monarch Khoſroo Purviz, towards the end of the ſixth century of the Chriſtian era. They form the ornaments of two lofty arches, and conſiſt of repreſentations of field ſports and aquatic amuſements. Some boats are filled with women playing upon harps, like that ſhown in the engraving Fig. 47. In one of the boats is ſeated

Fig. 47.—Persian Chang.
VIth Century.

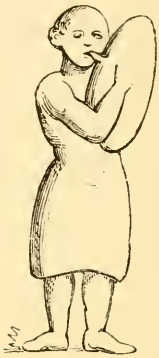


Fig. 48.—Persian Bagpipe.
VIth Century.

a man in an ornamental dreſs, with a halo round his head, who is receiving an arrow from one of his attendants; while a female, who is ſitting near him, plays on a Trigonon. Towards the top of the bas-relief is repreſented a ſtage on which are performers on ſmall ſtraight trumpets, and little hand drums; ſix harpers; and four other muſicians, apparently females,—the firſt of whom plays a flute; the ſecond, a ſort of Pandean pipe; the third, an inſtrument which is too much defaced to be recognizable; and the fourth, a bagpipe (Fig. 48). Two harps of a peculiar ſhape were copied by Sir Gore Ouſely from Perſian manuſcripts about 400 years old (Fig. 49). They reſemble, in the principle on which they are conſtructed, all other Oriental harps. There exiſted evidently various kinds of the *chang*. It may be remarked here that the inſtrument *tſchenk* (or *chang*) in uſe at the preſent day in Perſia, reſembles a dulcimer rather than a harp. The Arabs adopted the

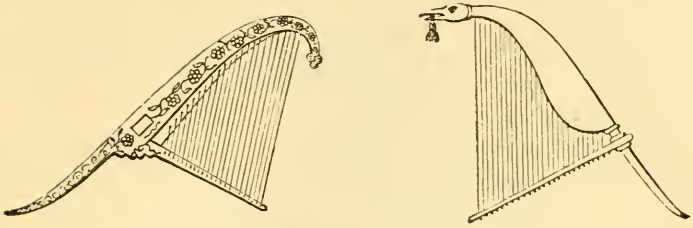


Fig. 49.—Persian Harps. about a.d. 1400.

harp from the Perſians, and called it *junk*. An intereſting repreſentation of a Turkiſh woman playing the harp (Fig. 50) ſketched from

Fig. 50.—Turkish Harps. XVIIth Century.

life by Melchior Lorich, in the ſeventeenth century, probably exhibits an old Perſian *chang*; for the Turks derived their muſic principally from Perſia. Here we have an introduction into Europe of the Oriental frame without a front pillar.

The Perſians appear to have adopted, at an early period, ſmaller muſical intervals than ſemitones. When the Arabs conquered Perſia, (A.D. 641) the Perſians had already attained a higher degree of civilization than their conquerors. The latter found in Perſia the cultivation of muſic conſiderably in advance of, and the muſical inſtruments ſuperior to their own. They ſoon adopted the Perſian inſtruments, and there can be no doubt that the muſical ſyſtem exhibited by the earlieſt Arab writers whoſe works on the theory of muſic have been preſerved, was baſed upon an older ſyſtem of the Perſians. In theſe works the octave is divided into ſeventeen *one-third-tones*,—intervals which are ſtill made uſe of in the Eaſt. Some of the Arabian inſtruments are conſtructed ſo as to enable the performer to produce theſe intervals with exactneſs. The frets on the lute and tamboura, for inſtance, are regulated with a view to this object.

The Arabs had, however, to ſome extent, become acquainted with the Perſian inſtruments before the time of their conqueſt of Perſia. An Arab muſician of the name of Nadr Ben el-Hares Ben Kelde, is recorded as having been ſent to the Perſian king Khoſroo Purviz, in the ſixth century, for the purpoſe of learning Perſian ſinging, and performing on the lute. Through him, it is ſaid, the lute was brought to Mekka. Saib Chatir, the ſon of a Perſian, is recorded as the firſt performer on the lute in Medina, A.D. 682; and of an Arab lutiſt, Ebn Soreidſch, from Mekka, A.D. 683, it is eſpecially mentioned that he played in the Perſian ſtyle, evidently the ſuperior one. The lute, *el-oud*, had before the tenth century only four ſtrings, or four pairs producing four tones, each tone having two ſtrings tuned in uniſon. About the tenth century a ſtring for a fifth tone was added. The ſtrings were made of ſilk neatly twiſted. The neck of the inſtrument was provided with frets of ſtring, which were carefully regulated according to the ſyſtem of ſeventeen intervals in the compaſs of an octave before mentioned. The ſhape of the inſtrument was the ſame as that ſhown in the engraving, Fig. 51, which repreſents a modern Egyptian playing on the *el-oud*. Other favourite ſtringed inſtruments were: the *tamboura*, a kind of lute with a long neck, and the *kanoon*, a kind of dulcimer, ſtrung with lamb's gut ſtrings (generally three in uniſon for each tone) and played upon with two little plectra which the performer had faſtened to his fingers (Fig. 52). The *kanoon* is likewiſe ſtill in uſe in countries inhabited by Mahomedans. The engraving, Fig. 53,

Fig. 51.—El-oud, or Lute.

Fig. 52. Kanoon.

repreſents an old Perſian *ſantir*, the prototype of our dulcimer, mounted with wire ſtrings, and played upon with two ſlightly curved ſticks. The illuſtration is taken from a Perſian painting in Teheran.

Al-Farabi, one of the earlieſt Arabian muſical theoriſts known, who lived in the beginning of the tenth century, does not allude to the fiddle-bow. This is noteworthy inaſmuch as it ſeems in ſome meaſure to ſupport the opinion maintained by ſome hiſtorians that the bow

Fig. 53.—Persian Santir.

originated in England or Wales. Unfortunately we poſſeſs no exact deſcriptions of the Perſian and Arabian inſtruments between the tenth and fourteenth centuries, otherwiſe we ſhould probably have earlier accounts of ſome inſtrument of the violin kind in Perſia. Aſh-ſhakandi, who lived in Spain about A.D. 1200, mentions the *rebab*, which may have been in uſe for centuries without having been thought worthy of notice, on account of its rudeneſs. Perſian theoriſts of the fourteenth

century mention two inſtruments of the violin claſs, viz., the *rebab* and the *kemangeh*. As regards the *kemangeh*, the Arabs themſelves aſſert that they obtained it from Perſia, and their ſtatement appears all the more worthy of belief from the fact that both names, *rebab* and *kemangeh* are originally Perſian.

The *nay*, a flute (Fig. 54) and the *ſurnay*, a ſpecies of oboe, are ſtill popular in the Eaſt.

Fig. 54.—Nay.

The Arabs muſt have been indefatigable conſtructors of muſical inſtruments. Kieſewetter (who wrote a diſſertation on the muſic of the Arabs, in co-operation with the diſtinguiſhed Oriental ſcholar Freiherr Hammer-Purgſtall) gives a liſt of above two hundred names of Arabian inſtruments, and this liſt does not include many known to us through Spaniſh hiſtorians. A careful inveſtigation of the muſical inſtruments of the Arabs during their ſojourn in Spain is particularly intereſting to the ſtudent of mediæval muſic, inaſmuch as it reveals the Eaſtern origin of many inſtruments which are generally regarded as European inventions. Introduced into Spain by the Saracens and the Moors, they were gradually diffuſed towards northern Europe. The Engliſh, for inſtance, adopted not only the Mooriſh Dance ("Morrice Dance") but alſo the *kuitra* ("gittern") the *el-oud* ("lute"), the *rebab* ("rebec"), the *nakkarah* ("naker"), and ſeveral others. In an old Corniſh ſacred drama, ſurmiſed to date from the fourteenth

century, we have in an enumeration of muſical inſtruments the *nakrys*, deſignating "kettle-drums." It muſt be remembered that the Corniſh language, which has now become obſolete, was nearly akin to the Welſh. Indeed, names of muſical inſtruments derived from the Moors in Spain, occur in almoſt every European language.

Moreover, fanciful ſtories are traditionally preſerved among the Arabs teſtifying to the wonderful effects they aſcribed to the power of their inſtrumental performances. One example will ſuffice. Al-Farabi had acquired his proficiency in Spain, in one of the ſchools at Cordova, which flouriſhed as early as towards the end of the ninth century. The reputation of Al-Farabi became ſo great, that ultimately it extended to Aſia. The mighty Caliph of Bagdad himſelf deſired to hear the celebrated muſician, and ſent meſſengers to Spain with inſtructions to offer rich preſents to him and to convey him to the Caliph's court. But Al-Farabi feared that if he went he ſhould be retained in Aſia, and ſhould never again ſee his home to which he felt deeply attached. However, at laſt he reſolved to diſguiſe himſelf, and to undertake the journey which promiſed him a rich harveſt. Dreſſed in a mean coſtume, he made unrecognized his appearance at the court juſt at the time when the mighty Caliph was being entertained with his daily concert. Al-Farabi, unknown to everyone was permitted to exhibit his ſkill on the lute. Scarcely had he commenced his performance, in a certain muſical mode, when he ſet all his audience laughing aloud, notwithſtanding the efforts of the courtiers to ſuppreſs ſo unbecoming an exhibition of mirth in the preſence of the Caliph. In truth, even the Caliph himſelf was compelled to burſt out into a fit of laughter. Preſently the performer changed to another mode, and the effect was, that immediately all his hearers began to ſigh, and ſoon tears of ſadneſs replaced the previous tears of mirth. Again he played in another mode, which excited his audience to ſuch a rage that they would have fought each other if he, ſeeing the danger, had not directly gone over to an appeaſing mode. After this wonderful exhibition of his ſkill Al-Farabi concluded in a mode which had the effect of making his liſteners fall into a profound ſleep, during which he took his departure.

It will be ſeen that this incident is almoſt identical with one recorded as having happened about twelve hundred years earlier at the court of Alexander the Great, and which forms the ſubject of Dryden's fine poem 'Alexander's Feaſt.' The diſtinguiſhed flutiſt Timotheus playing before Alexander, ſucceſſively arouſed and ſubdued different paſſions by changing the muſical modes during his performance, exactly in the ſame way as did Al-Farabi more than a thouſand years later.

Musical Instruments of the American Indians.

If the preſerved antiquities of the American Indians, dating from a period anterior to our diſcovery of the Weſtern Hemiſphere, poſſeſs an extraordinary intereſt inaſmuch as they afford reliable evidence of the degree of progreſs which the aborigines had attained in the cultivation of the arts, and in their ſocial condition before they came in contact with Europeans, it muſt be admitted that the ancient muſical inſtruments of the American Indians are alſo worthy of examination. Several of them are conſtructed in a manner which, in ſome degree, reveals the characteriſtics of the muſical ſyſtem prevalent among the people who uſed the inſtruments. And, although moſt of theſe intereſting relics, which have been obtained from tombs and other hiding-places, may not be of great antiquity, it has been ſatisfactorily aſcertained that they are genuine contrivances of the Indians before they were influenced by European civilization.

Some account of theſe relics is therefore likely to prove of intereſt alſo to the ethnologiſt, eſpecially as ſeveral facts, which will be ſtated, may perhaps be found of aſſiſtance in elucidating the ſtill unſolved problem as to the probable original connection of the American aborigines with Aſiatic races.

Among the inſtruments of the Aztecs in Mexico, and of the Inca Peruvians, none have been found ſo frequently, and have been preſerved in their former condition ſo unaltered, as pipes and flutes. They are generally made of pottery or of bone, ſubſtances which are unſuitable for the conſtruction of moſt other inſtruments, but which are remarkably well qualified to withſtand the decaying influence of time. There is, therefore, no reaſon to ſurmiſe from the frequent occurrence of ſuch inſtruments that they were more common than ſome other kinds of which ſpecimens have rarely been diſcovered.

The Mexicans poſſeſſed a ſmall whiſtle formed of baked clay, a conſiderable number of which have been found. Some ſpecimens are ſingularly groteſque in ſhape, repreſenting caricatures of the human face and figure, birds, beaſts, and flowers. Some were provided at the top with a finger-hole which, when it was cloſed, altered the pitch of the ſound, ſo that two different tones were producible on the inſtrument.

Others had a little ball of baked clay lying looſe inſide the air-chamber. When the inſtrument was blown the current of air ſet the ball in a vibrating motion, thereby cauſing a ſhrill and whirring ſound.

A ſimilar contrivance is ſometimes made uſe of by our ſportſmen for conveying ſignals. The Mexican whiſtle moſt likely ſerved principally the ſame purpoſe, but it may poſſibly have been uſed alſo in muſical entertainments. In the Ruſſian Horn Band each muſician is reſtricted

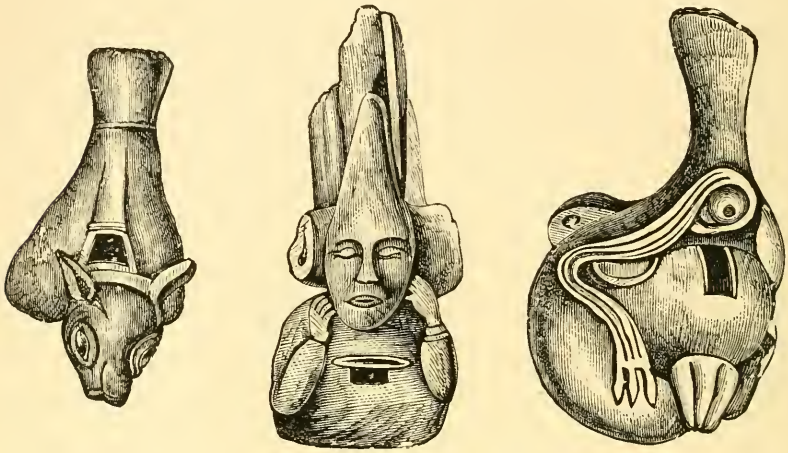


Fig. 55.—Whistles of the Aztecs.

to a ſingle tone; and ſimilar combinations of performers,—only, of courſe, much more rude,—have been witneſſed by travellers among ſome tribes in Africa and America. Sir Robert Schomburgk, for inſtance, mentions a concert of this deſcription as a common entertainment of the Warrau Indians in Guiana.

Rather more complete than the above ſpecimens are ſome of the whiſtles and ſmall pipes which have been found in graves of the Indians of Chiriqui in Central America. The one which is repreſented in the accompanying engraving, Fig. 56, appears, to judge from the ſomewhat obſcure deſcription tranſmitted to us, to poſſeſs about half a dozen tones. It is of pottery, painted in red and black on a cream-coloured ground.

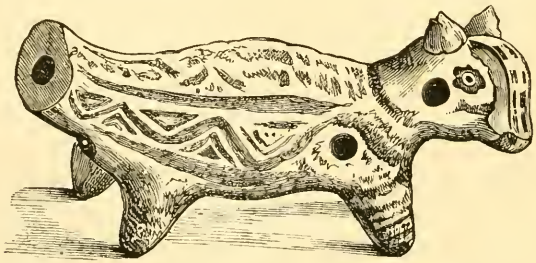
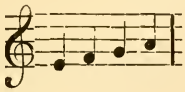
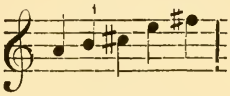


Fig. 56.—Antique Pipe from Central America.

Its length is about five inches. Among the inſtruments of this kind from Central America, the moſt complete ones have four finger-holes. By means of three of the holes the following four ſounds (including the ſound which is produced when none of the holes are cloſed) can be emitted:  The fourth finger-hole, when cloſed, has the effect of lowering the pitch a ſemitone. By a particular proceſs two or three lower notes are obtainable.

The pipe of the Aztecs which is called by the Mexican Spaniards *pito*, ſomewhat reſembled our flageolet. Its material was a reddiſh pottery, and it was provided with four finger-holes. Although, among about half a dozen ſpecimens, which the writer of this eſſay has examined, ſome are conſiderably larger than others, they all have, ſingularly enough, the ſame pitch of ſound. The ſmalleſt is about ſix inches in length, and the largeſt about nine inches. Several *pitos* have been found in a remarkably well-preſerved condition. They are eaſy to blow, and their order of intervals is in conformity with the pentatonic ſcale, thus  The uſual ſhape of the *pito* is that repreſented in the engraving, Fig. 57, which exhibits the upper ſide of

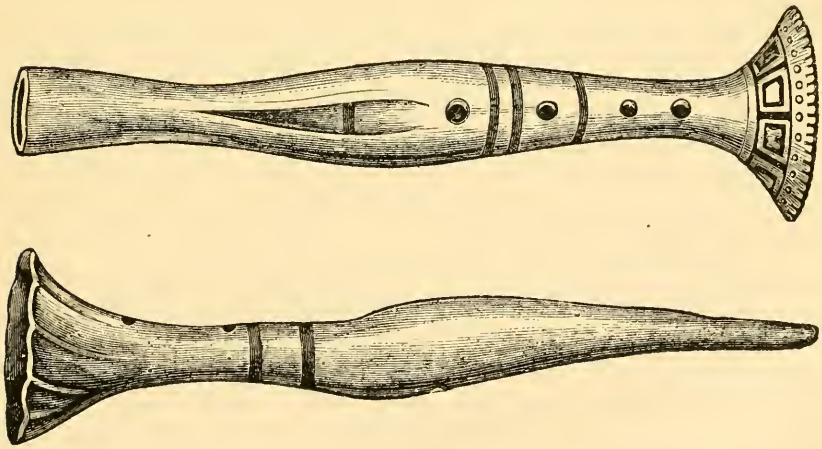


Fig. 57.—Pipes of the Aztecs.

one pipe, and a ſide view of another. A ſpecimen of a leſs common ſhape (Fig. 58) is in the Britiſh Muſeum. Indications ſuggeſtive of the

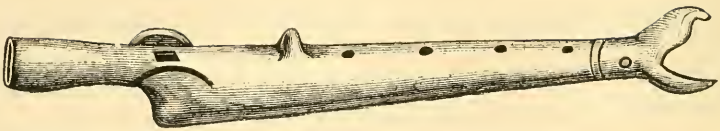


Fig. 58.—A Pipe of the Aztecs.

popular eſtimation in which the flute (or perhaps, more ſtrictly ſpeaking, the pipe) was held by the Aztecs are not wanting. It was played in religious obſervances, and we find it referred to allegorically in orations delivered on ſolemn occaſions. For inſtance, at the religious feſtival which was held in honour of Tezcatlepoca,—a divinity depicted as a handſome youth, and conſidered ſecond only to the Supreme Being—a young man was ſacrificed who in preparation for the ſolemn ceremony had been inſtructed, beſides in certain preſcribed rites which he had to obſerve, alſo in the art of playing the flute. Twenty days before his death, four young girls, named after the principal goddeſſes, were given to him as companions. And when the awful hour arrived in which he was to be ſacrificed, and he aſcended the temple, he obſerved the eſtabliſhed ſymbolical rite of breaking a flute on each of the ſteps.

Again, at the public ceremonies which took place on the acceſſion of a prince to the throne, the new monarch addreſſed a prayer to the Divinity, in which occurred the following allegorical expreſſion:—"I am thy flute; reveal to me thy will; breathe into me thy breath like into a flute, as thou haſt done to my predeceſſors on the throne. As thou haſt opened their eyes, their ears, and their mouth to utter what is good, ſo likewiſe do to me. I reſign myſelf entirely to thy guidance." Similar ſentences occur in the orations addreſſed to the monarch. In reading them one can hardly fail to be reminded of Hamlet's reflections addreſſed to Guildenſtern, when the ſervile courtier expreſſes his inability to "govern the ventages" of the pipe, and to make the inſtrument "diſcourſe moſt eloquent muſic," which the prince bids him to do.

M. de Caſtelnau, in his 'Expedition dans l'Amerique,' gives among the illuſtrations of objects diſcovered in ancient Peruvian tombs, a flute made of a human bone. It has four finger-holes at its upper ſurface, and appears to have been blown into at one end. Two bone-flutes, in appearance ſimilar to the engraving given by M. de Caſtelnau, which have been diſinterred at Truxillo, are depoſited in the Britiſh Muſeum. They are about ſix inches in length, and each is provided with five finger-holes. One of theſe has all the holes at its upper ſide, and one of the holes is conſiderably ſmaller than the reſt. This ſpecimen (Fig. 59) is ornamented with ſome ſimple deſigns in black.

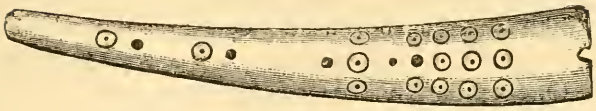


Fig. 59.—Antique Peruvian Bone-flute.

The other has four holes at its upper ſide, and one underneath, the latter being placed near to the end at which the inſtrument evidently was blown. In the aperture of this end ſome remains of a hardened paſte, or reſinous ſubſtance, are ſtill preſerved. This ſubſtance probably was inſerted for the purpoſe of narrowing the end of the tube, in order to facilitate the producing of the ſounds. The ſame contrivance is ſtill reſorted to in the conſtruction of the bone-flutes by ſome Indian tribes in Guiana. The bones of ſlain enemies appear to have been conſidered eſpecially appropriate for ſuch flutes. Ignatius Molina relates of the Araucanians that whenever they had been ſucceſsful in battle, it was their practice to ſacrifice one of the captives to the manes of their warriors ſlain by the enemy. Having killed the unhappy priſoner, they made flutes of his bones, danced and "thundered out their dreadful war-ſongs, accompanied by the mournful ſounds of theſe horrid inſtruments." And Alonſo de Ovalle ſays of the Indians in Chili: "Their flutes, which they play upon in their dances, are made of the bones of the Spaniards and other enemies whom they have overcome in war. This they do by way of triumph and glory for their victory. They make them likewiſe of bones of animals; but the warriors dance only to the flutes made of their enemies." The Mexicans and Peruvians obviouſly poſſeſſed a great variety of pipes and flutes, ſome of which are ſtill in uſe among certain Indian tribes. Thoſe which were found in the famous ruins at Palenque are depoſited in the Muſeum in Mexico. They are:—The *cuyvi*, a pipe on which only five tones were producible; the *huayllaca*, a ſort of flageolet; the *pincullu*, a flute; and the *chayna*, which is deſcribed by Rivero and Tſchudi as "a flute whoſe lugubrious and melancholy tones filled the heart with indeſcribable ſadneſs, and brought involuntary tears into the eyes." It was perhaps, properly ſpeaking, a kind of oboe. At any rate, the *jaina*, conſtructed at the preſent day by ſome Indian tribes in Peru, is deſcribed by travellers as being provided with a reed; and the *jaina* is probably the ſame inſtrument which the ancient Peruvians called *quena*, and the Mexicans *chayna*.

Moreover, the Peruvians had the ſyrinx, which they called *huayra-puhura*. Some clue to the meaning of this name may be gathered from the word *huayra*, which ſignifies "air." The *huayra-puhura* was made

of cane, and alſo of ſtone. Sometimes an embroidery of needle-work was attached to it as an ornament. One ſpecimen which has been diſinterred is adorned with twelve figures preciſely reſembling Malteſe croſſes. However, the croſs is a figure which may be ſuppoſed to ſuggeſt itſelf very naturally; and it is therefore not ſo ſurpriſing, as it may appear at a firſt glance, that the American Indians uſed it not unfrequently in deſigns and ſculptures before they came in contact with Chriſtians.

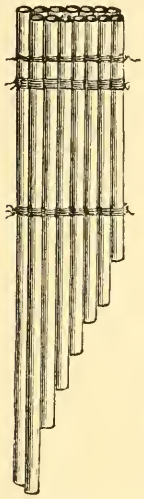
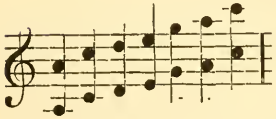


Fig. 60.—Huayra-puhura of the Inca Peruvians.

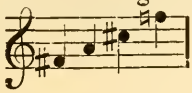
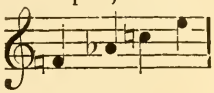
The Britiſh Muſeum poſſeſſes a *huayra-puhura* (Fig. 60) conſiſting of fourteen reed pipes, of a browniſh colour, tied together in two rows, by means of thread, ſo as to form a double ſet of ſeven reeds. Both ſets are almoſt exactly of the ſame dimenſion, and are placed ſide by ſide. The ſhorteſt of theſe reeds meaſure three inches, and the longeſt ſix inches and a half. In one ſet they are open at the bottom, and in the other they are cloſed. Conſequently, octaves are produced. The reader is probably aware that the cloſing of a pipe at the end raiſes its pitch an octave. Thus, in our organ, the ſo-called Stopped Diapaſon, a ſet of cloſed pipes, requires tubes of only half the length of thoſe which conſtitute the Open Diapaſon, although both theſe ſtops produce tones in the ſame pitch,—the only difference between them being the quality of ſound, which in the former is leſs bright than in the latter.

The tones yielded by the *huayra-puhura* in queſtion are as follows:

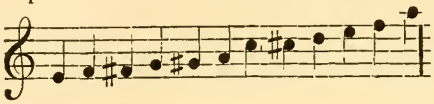


The higheſt octave is indiſtinct, owing to ſome injury done to the ſhorteſt tubes; but, ſufficient evidence remains to ſhow that the intervals were purpoſely arranged according to the pentatonic ſcale. This intereſting relic was brought to light from a tomb at Arica.

Another *huayra-puhura*, likewiſe ſtill yielding ſounds, was diſcovered placed over a corpſe in a Peruvian tomb, and was procured by the French General Paroiſſien. This inſtrument is made of a greeniſh ſtone, which is a ſpecies of talc. It contains eight pipes. The Berlin Muſeum poſſeſſes a plaiſter caſt taken from this curious relic. Its height is $5\frac{3}{8}$ inches, and its width $6\frac{1}{4}$ inches. Four of the tubes have ſmall lateral finger-holes, which, when cloſed, lower the pitch a ſemitone.

Theſe holes are on the ſecond, fourth, ſixth, and ſeventh pipe, as ſhown in the engraving, Fig. 61. When the holes are open, the tones are  ; and when they are cloſed  .

The other tubes have unalterable tones. The following notation exhibits all the tones producible on the inſtrument:



The muſician is likely to ſpeculate what could have induced the Peruvians to adopt ſo ſtrange a ſeries of intervals. Indeed, it ſeems rather arbitrary than premeditated.

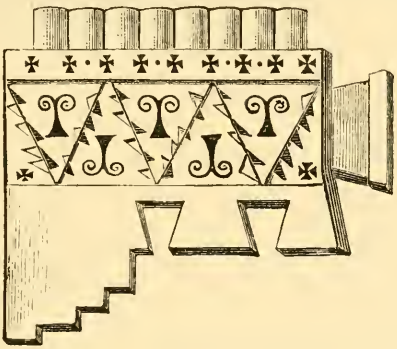


Fig. 61.—Huayra-puhura of the Inca Peruvians.

However, if—as appears not improbable—the Peruvians conſidered thoſe tones which are produced by cloſing the lateral holes, as additional intervals only, a variety of ſcales, or kinds of *modes*, may have been contrived by the admiſſion of one or other of theſe tones among the eſſential ones. At any rate, to conjecture from ſome remarks of Garcilaſſo de la Vega, and other hiſtorians, the Peruvians appear to have uſed different orders of intervals for different kinds of tunes, in a way ſimilar to what we find to be the caſe with certain Aſiatic nations. We are told for inſtance, "Each poem, or ſong, had its appropriate tune, and they could not put two different ſongs to one tune; and this was why the enamoured gallant, making muſic at night on his flute, with the tune which belonged to it, told the lady and all the world the joy or ſorrow of his ſoul, the favour or ill-will which he poſſeſſed; ſo that it might be ſaid that he ſpoke by the flute." Thus alſo the Hindus have certain tunes for certain ſeaſons and fixed occaſions, and likewiſe a number of different modes, or ſcales, uſed for particular kinds of ſongs.

Trumpets are often mentioned by hiſtorians who have recorded the manners and cuſtoms of the Indians at the time of the diſcovery of America. There are, however, ſcarcely any reliable illuſtrations of theſe inſtruments tranſmitted to us. The Conch was frequently uſed as a trumpet for conveying ſignals in war.

The engraving, Fig. 62, repreſents a kind of trumpet made of wood, and nearly ſeven feet in length, which Gumilla found among the Indians in the vicinity of the Orinoco. It ſomewhat reſembles the *juruparis*, a

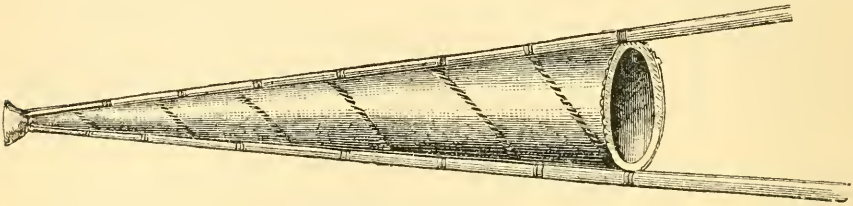


Fig. 62.—Trumpet of the Indians in the Vicinity of the Orinoco.

myſterious inſtrument of the Indians on the Rio Haupés, a tributary of the Rio Negro, South America. The *juruparis* is regarded as an object of great veneration. Women are never permitted to ſee it. So ſtringent is this law, that any woman obtaining a ſight of it is put to death,—uſually by poiſon. No youths are allowed to ſee it until they have been ſubjected to a ſeries of initiatory faſtings and ſcourgings. The *juruparis* is uſually kept hidden in the bed of ſome ſtream, deep in the foreſt; and no one dares to drink out of that ſanctified ſtream, or to bathe in its water. At feaſts the *juruparis* is brought out during the night, and is blown outſide the houſes of entertainment. The inner portion of the inſtrument conſiſts of a tube made of ſlips of the Paxiaba palm (*Triartea exorrhiza*). When the Indians are about to uſe the inſtrument, they nearly cloſe the upper end of the tube with clay, and tie above the oblong ſquare hole, ſhown in the engraving, Fig. 63, a portion of the leaf of the Uaruma, one of the arrow-root family. Round the tube are wrapped long ſtrips of the tough bark of the Jébaru (*Parivoa grandiflora*), a Ceaſal-pineous tree. This covering deſcends in folds below the tube. The length of the inſtrument is from four to five feet. The preſent illuſtration, which exhibits the *juruparis* with its cover and without it, has been taken from a ſpecimen in the Muſeum at Kew Gardens. The myſteries connected with this trumpet are evidently old tradition from the Indian anceſtors. *Jurupari* means "Demon"; and with ſeveral Indian tribes on the Amazon river cuſtoms and ceremonies ſtill prevail in honour of Jurupari.

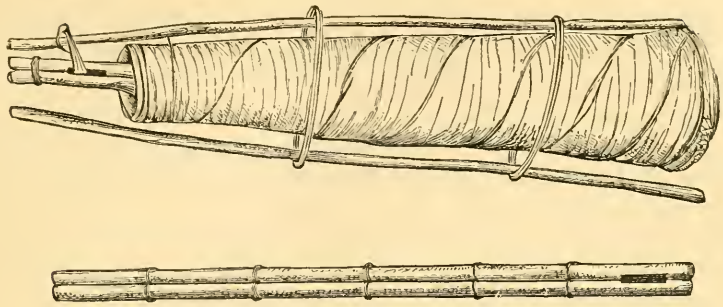


Fig. 63.—Juruparis. South America.

The Caroados, an Indian tribe in Brazil, have a war trumpet which cloſely reſembles the *juruparis*. With this people it is the cuſtom for the chief to give on his war trumpet the ſignal for battle, and to continue blowing as long as he wiſhes the battle to laſt. As ſoon as he diſcontinues blowing his trumpet, his warriors will leave off fighting. During the battle he is generally ſtanding on a hill; or, if there is no hill near, he will place himſelf on a tree, from which he will convey ſignals to his people. The trumpet is made of wood, and its ſound is deſcribed by travellers as very deep, but rather pleaſant. The ſound is eaſily produced, and its continuance does not require much exertion; but a peculiar vibration of the lips is neceſſary, which requires practice.

Another trumpet, the *turé*, is common with many Indian tribes on the river Amazon, who uſe it chiefly in war. It is made of a long and thick bamboo, and there is a ſplit reed in the mouthpiece. It therefore partakes rather of the character of an oboe or clarinet. Its tone is deſcribed as loud and harſh. The *turé* is eſpecially uſed by the ſentinels of predatory hordes, who, mounted on a lofty tree, give the ſignal of attack to their comrades.

Again, the aborigines in Mexico have a curious contrivance of this kind, the *acocotl*, now more uſually called *clarin*. The former word is its old Indian name, and the latter appears to have been firſt given to the inſtrument by the Spaniards. The *acocotl* conſiſts of a very thin tube, from eight to ten feet in length, and generally not quite ſtraight, but with ſome irregular curves. This tube, which is often not thicker than a couple of inches in diameter, terminates at one end in a ſort of "bell," and has at the other end a ſmall mouthpiece reſembling in ſhape that of a clarinet. The tube is made of the dry ſtalk of a plant which is common in Mexico, and which likewiſe the Indians call *acocotl*. The moſt ſingular characteriſtic of the inſtrument is that

the performer does not blow into it, but inhales the air through it,—or rather, he produces the ſound by ſucking the mouthpiece. It is ſaid to require ſtrong lungs to perform on the *acocotl* effectively according to Indian notions of taſte.

The name of the Peruvian trumpet was *cqueppa.* Acoſta mentions a wind inſtrument of the Peruvians, called *choismia*, which had a bright and ſtirring quality of ſound, like a trumpet. In his deſcription of a religious ſacrifice, at which the chief of a tribe uſed to throw gold and precious jewels into a river, or lake, as an offering to the protecting water-ſpirits, Acoſta mentions vocal performances, the ſubjects of which referred to the ancient hiſtory of the country, to the gods, to heroes, and to battles and other memorable events, which in this way were tranſmitted from generation to generation. At the entrance to the dwelling of the chief were ſtationed two naked old Indians, one on each ſide the door, both playing the *choismia.* Herrera mentions that the Indians in Cuba uſed to blow horns, producing exceedingly loud ſounds. Likewiſe the Indians in Ecuador employed horns, or trumpets, in their warlike exploits.

The *botuto* (Fig. 64), which Gumilla ſaw uſed by ſome tribes near the river Orinoco, was evidently an ancient Indian contrivance, but

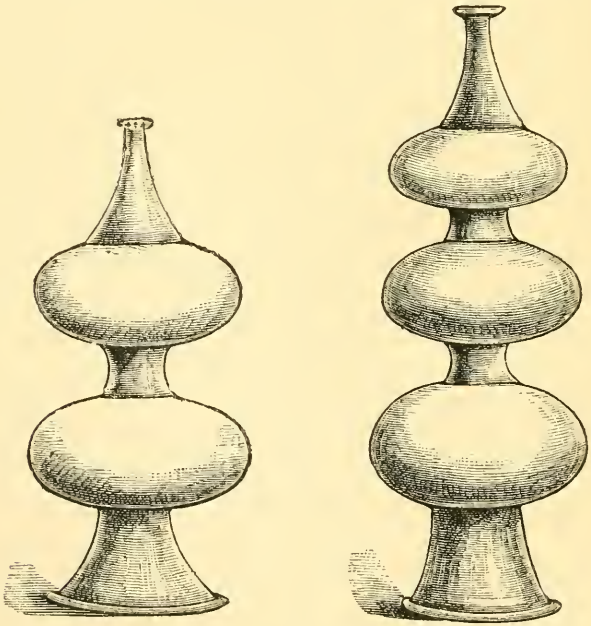


Fig. 64.—Antique Trumpets of the Indians in Guiana.

appears to have fallen almoſt into oblivion during the laſt two centuries. It was made of baked clay, and was commonly from three to four feet long. However, ſome trumpets of this kind were of enormous ſize. The *botuto* with two bellies was uſually made thicker than that with three bellies, and emitted a deeper ſound, which is deſcribed as having been really terrific. Theſe trumpets were uſed on occaſions of mourning and funeral dances.

Alexander von Humboldt ſaw the *botuto* among ſome Indian tribes near the river Orinoco. He obſerved that its guardianſhip is generally confided to ſome old Indians who pretend to be better inſtructed in divine things than others, and who ſound it under the palm trees to make them bear abundance of fruit. "On the bank of the Orinoco," Humboldt ſays in his Travels to the Equinoctial Regions of America, "there exiſt no idols, as among all the nations who have remained faithful to the firſt worſhip of nature; but the *botuto*, the ſacred trumpet, is an object of veneration. To be initiated into the myſteries of the *botuto*, it is requiſite to be of pure morals, and to have lived ſingle. The initiated are ſubjected to flagellations, faſtings, and other painful exerciſes. There are but a ſmall number of theſe ſacred trumpets. The moſt anciently celebrated is that upon a hill near the confluence of the Tomo and the Guainia. It is pretended that this inſtrument is heard at once on the banks of the Tuamini and at the Miſſion of San Miguel de Davipe, a diſtance of ten leagues. Father Cereſo aſſured me that the Indians ſpeak of the *botuto* of Tomo as an object of worſhip common to many ſurrounding tribes. Fruit and intoxicating liquors are placed beſide the ſacred trumpet. Sometimes the Great Spirit himſelf makes the *botuto* reſound; ſometimes he is content to manifeſt his will through him to whom the keeping of the inſtrument is entruſted. Theſe juggleries being very ancient,—from the fathers of our fathers, ſay the Indians,—we muſt not be ſurpriſed that ſome unbelievers are already to be found; but they expreſs their diſbelief in the myſteries of the *botuto* only in whiſpers. Women are not permitted to ſee this marvellous inſtrument, and are excluded from all the ceremonies of this worſhip. If a woman have the misfortune to ſee the trumpet, ſhe is put to death without mercy."

Beſides thoſe which have been noticed, other antique wind-inſtruments of the Indians are mentioned by hiſtorians; but the deſcriptions given of them are too ſuperficial to convey a diſtinct notion as to their form and purport. Moreover, ſeveral of theſe contrivances ſcarcely deſerve to be claſſed with muſical inſtruments. This may, for inſtance, be ſaid of certain muſical jars, or earthen veſſels producing ſounds, which

the Peruvians constructed for their amusement. These vessels were made double. Rivero and Tschudi observe:—"They were made in such perfection that, when they were filled with a liquid, the air, escaping through the opening left for that purpose, produced sounds at times very musical. These sounds sometimes imitated the voice of the animal which was represented by the principal part of the vessel, as in a beautiful specimen we have seen which represents a cat, and which, upon receiving water through the upper opening, produces a sound similar to the mewing of that animal. We have in our possession a vessel of black clay, which perfectly imitates the whistle of the thrush." A similar contrivance of the Indians in Chili, preserved in the Museum at Santiago, is described by the traveller S. S. Hill as follows:—"It consists of two earthen vessels in the form of our india-rubber bottles, but somewhat larger, with a flat tube from four to six inches in length, uniting their necks near the top and slightly curved upwards, and with a small hole on the upper side one third of the length of the tube from one side of the necks. To produce the sounds the bottles were filled with water and suspended to the bough of a tree, or to a beam, by a string attached to the middle of the curved tube, and then swung backwards and forwards in such a manner as to cause each end to be alternately the highest and lowest, so that the water might pass backwards and forwards from one bottle to the other through the tube between them. By this means soothing sounds were produced, which, it is said, were employed to lull to repose the drowsy chiefs who usually slept away the hottest hours of the day. In the meantime, as the bottles were porous, the water within them diminished by evaporation, and the sound died gradually away."

Again, the Indians in the southern district of Venezuela used to construct an earthen vessel with two sockets in which two tubes were inserted. By blowing through the tubes, they obtained sounds which Gumilla describes as exceedingly lugubrious and mournful.

As regards instruments of percussion, a kind of drum deserves special notice on account of the ingenuity evinced in its construction. The Mexicans called it *teponaztli*. They generally made it of a single block of very hard wood, somewhat oblong square in shape, which they hollowed, leaving at each end a solid piece about three or four inches in thickness, and at its upper side a kind of sound-board about a quarter of an inch in thickness. In this sound-board, if it may be called so, they made three incisions; namely, two running parallel some distance lengthwise of the drum, and a third running across from one of these to the other just in the centre. By this means they obtained two vibrating

tongues of wood, which when beaten with a ſtick, produced ſounds as clearly defined as are thoſe of our kettle drums. By making one of the tongues thinner than the other, they enſured two different ſounds, the pitch of which they were enabled to regulate by ſhaving off more or leſs of the wood. The bottom of the drum they cut almoſt entirely open. The traveller, M. Nebel, was told by archæologiſts in Mexico that theſe inſtruments always contained the interval of a third, but on examining ſeveral ſpecimens which he ſaw in Muſeums, he found ſome in which the two ſounds ſtood towards each other in the relation of a fourth; while in others they conſtituted a fifth, in others a ſixth, and in ſome even an octave. This is noteworthy inaſmuch as it points to a conformity with our diatonic ſeries of intervals, excepting the ſeventh.

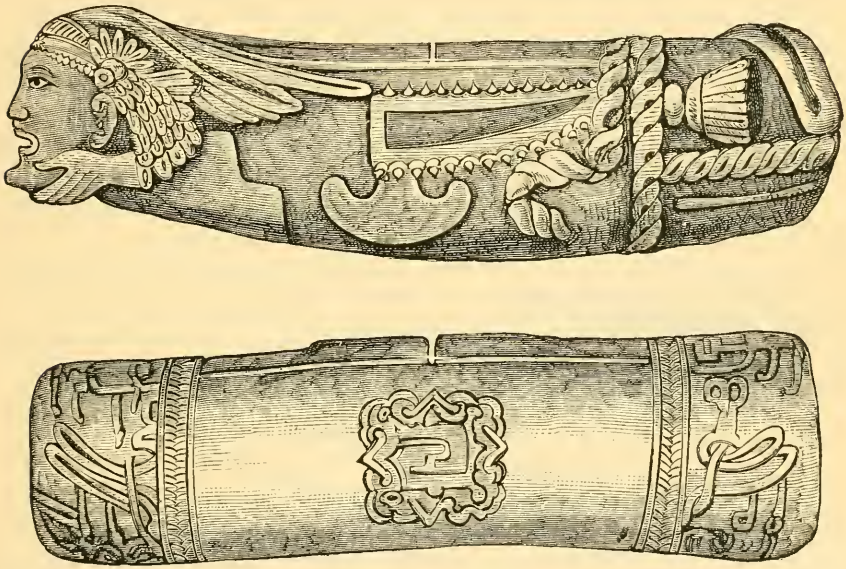


Fig. 65.—Teponaztli of the Aztecs.

The *teponaztli* was generally carved with various fanciful and ingenious deſigns. It was beaten with two drumſticks covered at the end with an elaſtic gum, called *ule*, which was obtained from the milky juice extracted from the Mexican Ule-tree. Some of theſe drums were ſo ſmall that they uſed to be carried on a ſtring, or ſtrap, ſuſpended round the neck of the player; others, again, meaſured upwards of five feet in length, and their ſound was ſo powerful that it could be heard at a diſtance of three miles. In ſome rare inſtances a ſpecimen of the

teponaztli is ſtill preſerved by the Indians in Mexico, eſpecially among tribes who have been comparatively but little affected by intercourſe with their European aggreſſors. Herr Heller ſaw ſuch an inſtrument in the hands of the Indians of Huatuſco,—a village near Mirador in the Tierra templada or temperate region occupying the ſlopes of the Cordilleras. He ſays that the people regard it as a ſacred object, and that they beat it only on certain days of the year; but that they could give him no reaſon for adhering to thoſe days. Perhaps a reference to the exact times of the celebration of the Aztecs religious feſtivals, as recorded by Spaniſh writers, might afford ſome clue to this queſtion. At all events, it is not improbable that the Indians ſhould have preſerved with the *teponaztli* ſome remains of the ſolemn ceremonies of their heathen anceſtors in which this inſtrument was eſpecially employed. Its ſound is deſcribed as ſo very loud as to be diſtinctly audible at an incredibly great diſtance. This phenomenon, which has been noticed by ſeveral travellers, may perhaps be owing in ſome meaſure to the condition of the atmoſphere in Mexico.

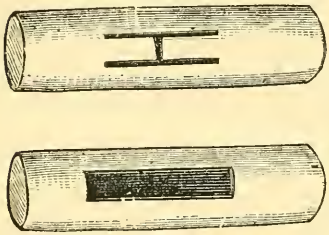


Fig. 66.—Antique Drum from Hispaniola.

Inſtruments of percuſſion conſtructed on a principle more or leſs ſimilar to the *teponaztli* were in uſe in ſeveral other parts of America, beſides in Mexico. Oviedo ('La Hyſtoria general de las Indias;' Salamanca 1547) gives a drawing of a drum from San Domingo, which, as it ſhows diſtinctly both the upper and under ſide of the inſtrument, is here inſerted. (Fig. 66.)

Valeſco mentions among the works of art, or handicraft, which were obſerved with the Indians of Quito, a large drum made of a ſolid piece of wood, hollowed, and provided at the upper ſurface with two narrow openings of a curved figure. This inſtrument appears to have been nearly identical in conſtruction with the large war-drum of the Indians in Northern Guiana, which, according to the drawing given in Gumilla's 'El Orinoco iluſtrado,' had three ſerpentine inciſions, and muſt have yielded more than two different ſounds, becauſe the windings produce ſeveral ſmall ſegments of wood each conſtituting a kind of vibrating tongue. This war-drum was of ſo enormous a ſize that it required to be hung on a beam which reſted horizontally on two poles ſtuck into the ground. Thus ſuſpended it was beaten with two drumſticks, not very different in appearance to thoſe uſed in our military bands; but the drummer was almoſt hidden by the huge machine upon which he was labouring.

The largeſt kind of Mexican *teponaztli* appears to have been generally of a cylindrical ſhape. Clavigero ('Storia antica del Meſſico,' Ceſena 1780) gives a drawing of ſuch an inſtrument. Moreover, drums conſtructed of ſkin, or parchment, in combination with wood, were not unknown to the Indians. Of this deſcription was, for inſtance the *huehuetl* of the Aztecs in Mexico, which conſiſted, according to Clavigero, of a wooden cylinder ſomewhat above three feet in height, curiouſly carved and painted, and covered at the top with carefully prepared deer-ſkin. And, what appears the moſt remarkable, the parchment, we are told, could be tightened or ſlackened by means of cords in nearly the ſame way as this is done on our own drum. The *huehuetl* was not beaten with drumſticks, but merely ſtruck with the fingers, and much dexterity was required to ſtrike it in the proper manner. Oviedo ſtates that the Indians in Cuba had drums which were ſtretched with human ſkin. And Bernal Diaz relates that when he was with Cortés in Mexico, they aſcended together the *Teocalli* ("Houſe of God") a large temple in which human ſacrifices were offered by the aborigines; and there the Spaniſh viſitors ſaw a large drum which was made, Diaz tells us, with ſkins of great ſerpents. This "helliſh inſtrument," as he calls it, produced, when ſtruck, a doleful ſound which was ſo awfully loud that it could be heard at a diſtance of two leagues. Clavigero, in his work on Mexico before noticed, has publiſhed an engraving of the *huehuetl*, which bears ſo remarkable a reſemblance to certain European drums, that one might be inclined to regard it as unreliable if Clavigero's deſcription of the inſtrument were not in every material point in accordance with it. Nevertheleſs, it is by no means improbable that the drawing was made from the deſcription, and not from an actual inſtrument.

The name of the Peruvian drum was *huanca*. Moreover, the Peruvians had also an inſtrument of percuſſion, called *chhilchiles*, which appears to have been a ſort of tambourine.

The rattle was likewiſe popular with the Indians before the diſcovery of America. The Mexicans called it *ajacaxtli*. In conſtruction it was ſimilar to the rattle at the preſent day commonly uſed by the Indians. It was oval or round in ſhape, and appears to have been uſually made of a gourd into which holes were pierced, and to which a wooden handle was affixed. A number of little pebbles were encloſed in the hollowed gourd. However, the *ajacaxtli* alſo made of pottery. The little balls in the *ajacaxtli* of pottery, encloſed as they are, may at a firſt glance appear a puzzle. Probably when the rattle was being formed, they were attached to the inſide as ſlightly as poſſible;

and after the clay had been baked, they were detached by means of an implement paſſed through the holes.

On certain occaſions the chiefs, and other perſons of rank and influence among the Aztecs, performed ſolemn and graceful dances. In preparation thereto they dreſſed themſelves in ſplendid garments, adorning themſelves with bracelets, earrings, and ſimilar ornaments of gold and jewels, as well as with precious and beautiful feathers. And while they were dancing thus arrayed they held in one hand a ſhield and in the other the *ajacaxtli*, which they ſhook in rhythmical agreement with the ſinging to which they regulated their ſteps. One of theſe dances, called *tocotin*, which partook of a ſacred character, is ſaid to have retained its popularity for a conſiderable time even after the Spaniſh ſubjugation of the Indians.

The Tezcucans, (or Acolhuans) belonged to the ſame race as the Aztecs, whom, however, they ſurpaſſed in knowledge and ſocial refinement. Nezahualcoyotl, a wiſe monarch of the Tezcucans, abhorred human ſacrifices, and erected a large temple which he dedicated to "The Unknown God, the Cauſe of Cauſes." This edifice had a tower nine ſtories high, on the top of which were placed a number of muſical inſtruments of various kinds, which were uſed to ſummon the worſhippers to prayer. Reſpecting theſe inſtruments, eſpecial mention is made of a ſonorous metal which was ſtruck with a mallet. This is ſtated in a hiſtorical eſſay written by Ixtlilxochitl, a native of Mexico and of royal deſcent, who lived in the beginning of the ſeventeenth century, and who may be ſuppoſed to have been familiar with the muſical practices of his countrymen. But whether the ſonorous metal alluded to was a gong or a bell, is not clear from the vague record tranſmitted to us. That the bell was known to the Peruvians appears to be no longer doubtful, ſince a ſmall ſpecimen has been found in one of the old Peruvian tombs. This intereſting relic is now depoſited in the muſeum at Lima. M. de Caſtelnau has publiſhed a drawing of it, which is here reproduced (Fig. 67). This little bell is of copper. The Peruvians called their bells *chanrares;* but it remains queſtionable whether this name did not deſignate rather the ſo-called horſe bells, which were certainly known to the Mexicans, who called them *yotl.* It is noteworthy that theſe *yotl* are found figured in the picture-writings repreſenting the various objects which the Aztecs uſed to pay as tribute to their sovereigns. The collection of Mexican antiquities in the Britiſh Muſeum contains a cluſter of yotl-bells (Fig. 69), which are different in ſhape from thoſe juſt noticed. Being nearly round, they cloſely reſemble the *Schellen* which the Germans are in the habit of

affixing to their horſes, particularly in the winter when they are driving their noiſeleſs ſledges.

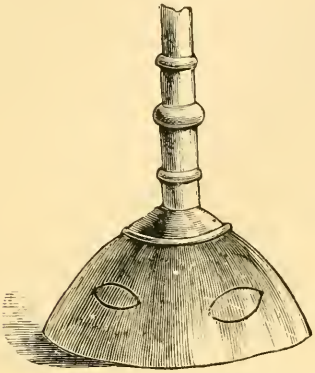
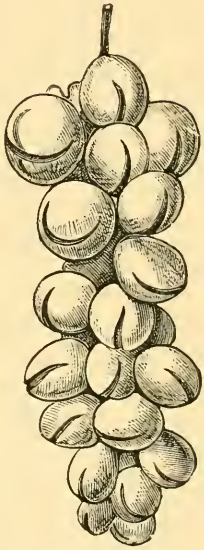


Fig. 67.—Antique Bell of the Inca Peruvians.



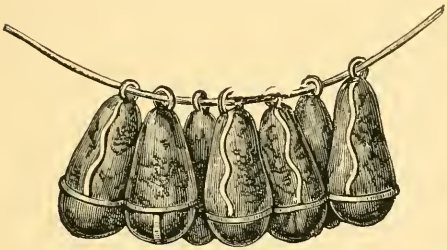


Fig. 68.—Yotl of the Aztecs.

Fig. 69.—A Cluster of small Bells of the Aztecs.

Again, in South America, ſonorous ſtones are not unknown, and were uſed in olden time for muſical purpoſes. The traveller G. T. Vigne ſaw among the Indian antiquities preſerved in the town of Cuzco, in Peru "a muſical inſtrument of green ſonorous ſtone, about a foot long, and an inch and a half wide, flat-ſided, pointed at both ends, and arched at the back, where it was about a quarter of an inch thick, whence it diminiſhed to an edge, like the blade of a knife . . . . In the middle of the back was a ſmall hole, through which a piece of ſtring was paſſed; and when ſuſpended and ſtruck by any hard ſubſtance, a ſingularly muſical note was produced." Humboldt mentions the Amazon-ſtone, which, on being ſtruck by a hard ſubſtance yields a metallic ſound. It was formerly cut by the American Indians

into very thin plates, perforated in the centre, and ſuſpended by a ſtring. Theſe plates were remarkably ſonorous. However, the ſtone is not, as might be conjectured from its name, found excluſively near the Amazon River. The name was given to it as well as to the river by the firſt European viſitors to America, in alluſion to the female warriors, reſpecting whom ſtrange ſtories are told. The natives pretending, according to an ancient tradition, that the ſtone came from the country of "Women without huſbands," or "Women living alone." The Amazon-ſtone, according to Humboldt, appears to have belonged to the ſacred ſtones to which the Indians offered divine worſhip.

As regards the ancient ſtringed inſtruments of the American Indians, our information is indeed but ſcanty. Clavigero ſays that the Mexicans were entirely unacquainted with ſtringed inſtruments,—a ſtatement, the correctneſs of which is queſtionable, conſidering the ſtage of civilization to which theſe people had attained. At any rate, we generally find one or other kind of ſuch inſtruments with nations whoſe intellectual progreſs and ſocial condition are decidedly inferior. The Aztecs had many claims to the character of a civilized community. Moreover, the Tezcucans were even more advanced in the cultivation of the arts and ſciences than the Aztecs. "The beſt hiſtories," Preſcott obſerves, "the beſt poems, the beſt code of laws, the pureſt dialect, were all allowed to be Tezcucan. The Aztecs rivalled their neighbours in ſplendour of living, and even in the magnificence of their ſtructures. They diſplayed a pomp and oſtentatious pageantry, truly Aſiatic." Unfortunately hiſtorians are ſometimes not ſufficiently diſcerning in their communications reſpecting muſical queſtions. J. Ranking, in deſcribing the grandeur of the eſtabliſhment maintained by Montezuma, ſays that during the repaſts of this monarch "there was muſic of fiddle, flute, ſnail-ſhell, a kettle-drum, and other ſtrange inſtruments." But as this writer does not indicate the ſource whence he drew his information reſpecting Montezuma's orcheſtra including the fiddle, the ſtatement deſerves ſcarcely a paſſing notice. There are, in fact, no reliable indications that the Indians were acquainted with any inſtrument played with the bow, and if Montezuma had actually ſome kind of violin in his royal band, he much more likely obtained it from the Spaniards than from his anceſtors.

The Peruvians poſſeſſed a ſtringed inſtrument, called *tinya*, which was provided with five or ſeven ſtrings. To conjecture from the unſatisfactory account of it tranſmitted to us, the *tinya* appears to have been a kind of guitar. Conſidering the fragility of the materials of which ſuch inſtruments are generally conſtructed, it is perhaps not ſurpriſing

that we do not meet with any ſpecimens of them in the Muſeums of American antiquities.

A few remarks will not be out of place here referring to the muſical performances of the ancient Indians; ſince an acquaintance with the nature of the performances is likely to afford additional aſſiſtance in appreciating the characteriſtics of the inſtruments.

In Peru, where the military ſyſtem was carefully organiſed, each diviſion of the army had its trumpeters, called *cqueppacamayo*, and its drummers, called *huancarcamayo*. Whenever the Inca, or monarch, returned with his troops victorious from battle, his firſt act was to repair to the temple of the Sun, in order to offer up thankſgiving; and, after the concluſion of this ſolemn ceremony, the people celebrated the glorious event with feſtivities, of which muſic and dancing conſtituted a principal part. Indeed, muſical performances appear to have been conſidered indiſpenſable on occaſions of public celebrations. Frequent mention is made of them by hiſtorians who have deſcribed the feſtivals annually obſerved by the Peruvians; as, for inſtance, the *Raymi*, a great feſtival in honour of the Sun, which was held in the ſummer ſolſtice, and which conſtituted the principal religious public ſolemnity. Likewiſe, the *Situa*, a feſtival celebrated at the autumnal equinox, in which, as in the Raymi, the muſical entertainments and public rejoicings were preceded by a general faſt. The words *raymi* and *aſitua* ſignify "ſolemn dance" and "great dance"; and from the frequency of their occurrence in connection with the names of the months, it would appear that muſic and dancing muſt have conſtituted the favourite paſtimes of the Peruvians all the year round. Moreover, this impreſſion is ſupported by hiſtorical records.

About the month of October the Peruvians celebrated a ſolemn feaſt in honour of the dead, on which occaſion they executed lugubrious ſongs and plaintive inſtrumental muſic. Compoſitions of a ſimilar character were performed on occaſion of the deceaſe of a monarch. As ſoon as it was made known to the people that their Inca had been "called home to the manſions of his father the Sun," they prepared to celebrate his obſequies with becoming ſolemnity. Preſcott, in his graphic deſcription of theſe obſervances, ſays: "At ſtated intervals, for a year, the people aſſembled to renew the expreſſions of their ſorrow; proceſſions were made diſplaying the banner of the departed monarch; bards and minſtrels were appointed to chronicle his achievements, and their ſongs continued to be rehearſed at high feſtivals in the preſence of the reigning monarch,—thus ſtimulating the living by the glorious example of the dead." The Peruvians had alſo par-

ticular agricultural ſongs, which they were in the habit of ſinging while engaged in tilling the lands of the Inca. To cultivate the fields of the monarch was a duty which devolved upon the whole nation. The ſubject of theſe ſongs, or rather hymns, referred eſpecially to the noble deeds and glorious achievements of the Inca and his dynaſty. While thus ſinging, the labourers regulated their work to the rhythm of the muſic, thereby enſuring a pleaſant excitement and a ſtimulant in their occupation, like ſoldiers regulating their ſteps to the muſic of the military band. Theſe hymns pleaſed the Spaniſh invaders ſo greatly that they not only adopted ſeveral of them, but alſo compoſed ſome in a ſimilar form and ſtyle. This appears, however, to have been the caſe rather with the poetry than with the muſic.

The name of the Peruvian elegiac ſongs was *haravi*. Some tunes of theſe ſongs, pronounced to be genuine ſpecimens, have been publiſhed in recent works; but their genuineneſs appears queſtionable. At all events they muſt have been much tampered with, as they exhibit exactly the form of the Spaniſh *bolero*. Even allowing that the melodies of theſe compoſitions have been derived from Peruvian *harivaris*, it is impoſſible to determine with any degree of certainty how much in them has been retained of the original tunes, and how much has been ſupplied beſides the harmony, which is entirely an addition of the European arranger. The Peruvians had minſtrels, called *haravecs* (*i.e.*, "inventors"), whoſe occupation it was to compoſe and to recite the *haravis*. Beſides theſe minſtrels, or bards, they had a claſs of poets, called *amautas* (*i.e.*, "wiſe men"), to whom was principally confided the office of recording the national annals, and who compoſed dramatic works as well as feſtive ſongs.

Acoſta ('Hiſtoria natural y moral de las Indias'; Sevilla, 1590), mentions as the moſt popular dances of the American Indians, the *taqui*, the *areytos*, and the *mitotes*. The *taqui* was a Peruvian dance, and appears to be the ſame which is called by ſome hiſtorians *cachua*. This dance, which is ſtill performed by the Indians in Peru, is of a lively character, and contains various figures requiring great agility and dexterity. The *areytos* were dances as well as ſongs of the aborigines of San Domingo and other Weſt Indian iſlands. According to Oviedo they ſomewhat reſembled the rural dances of Spain. They ſometimes partook of a ſacred character; but more uſually the ſubject treated in them referred to hiſtorical events, or to love, or to warlike purſuits. The *mitotes*, which were the favourite dances of the Mexicans, are deſcribed as having conſiſted chiefly of ſolemn and graceful figures; however, if reliance may be placed on the illuſtrations publiſhed in the

Engliſh tranſlation of Herrera's hiſtorical work (London, 1725), there muſt have been ſome *mitotes* in which ſolemnity and gracefulneſs were caſt aſide; for we ſee one dancer ſtanding on the ſhoulders of another, and ſuch like uncouth excentricities. Mexicans of rank maintained profeſſional dancers for their private entertainment. The royal dancers retained at the court of Montezuma muſt have been very numerous, ſince it is recorded that they occupied a particular diſtrict of the capital which was appropriated to them excluſively. In certain dances the performers wore maſks repreſenting the heads of animals.

The Mexicans poſſeſſed a claſs of ſongs which ſerved as a record of hiſtorical events. Furthermore they had war-ſongs, love-ſongs, and other ſecular vocal compoſitions, as well as ſacred chants, in the practice of which boys were inſtructed by the prieſts in order that they might aſſiſt in the muſical performances of the temple. It appertained to the office of the prieſts to burn incenſe, and to perform muſic in the temple at ſtated times of the day. The commencement of the religious obſervances, which took place regularly at ſunriſe, at mid-day, at ſunſet, and at midnight, was announced by ſignals blown on trumpets and pipes. Perſons of high poſition retained in their ſervice profeſſional muſicians, whoſe duty it was to compoſe ballads, and to perform vocal muſic with inſtrumental accompaniment. Moreover, the nobles themſelves,—nay, even the monarch, not unfrequently delighted in compoſing ballads and odes.

Eſpecially noticeable is the inſtitution termed 'Council of Muſic,' which the wiſe monarch Nezahualcoyotl founded in Tezcuco. This inſtitution was not intended excluſively for promoting the cultivation of muſic; its aim compriſed the advancement of various arts, and of ſciences ſuch as hiſtory, aſtronomy, etc. In fact, it was an academy for general education. Probably no better evidence could be cited teſtifying to the remarkable intellectual attainments of the Mexican Indians before the diſcovery of America, than this Council of Muſic. Although in ſome reſpects it appears to have reſembled the 'Board of Muſic' of the Chineſe, it was planned on a more enlightened and more comprehenſive principle. The Chineſe 'Board of Muſic,' called *Yo Poo*, is an office connected with the *Lé Poo*, or 'Board of Rites,' eſtabliſhed by the Imperial government at Peking. The principal object of the Board of Rites is to control the ritual obſervances of the celeſtial empire. Theſe obſervances are divided into five claſſes relating to the ceremonies to be performed on occaſions of ſacrifices offered to the gods; of feſtivals and certain court ſolemnities; of military reviews; of preſentations, congratulations, marriages, deaths,

burials,—in ſhort, concerning almoſt every poſſible event in ſocial and public life. How narrow a ſpirit does this Imperial guardianſhip over preſcribed form and etiquette evince, if compared with the love for intellectual progreſs which animated the Tezcucan monarch in eſtabliſhing his Council of Muſic.

The reader is probably aware that in one of the various hypotheſes which have been advanced reſpecting the Aſiatic origin of the American Indians, China is aſſigned to them as their ancient home. Some hiſtorians ſurmiſe them to be emigrants from Mongolia, Thibet, or Hinduſtan; others maintain that they are the offspring of Phœnician coloniſts who ſettled in Central America. Even more curious are the arguments of certain inquirers who have no doubt whatever that the anceſtors of the American Indians were the loſt ten tribes of Iſrael, of which ſince about the time of the Babylonian captivity hiſtory is ſilent. Whatever may be thought as to which particular one of theſe ſpeculations hits the truth, they certainly have all proved uſeful in ſo far as they have made ethnologiſts more exactly acquainted with the habits and predilections of the American aborigines than would otherwiſe have been the case. For, as the advocates of each hypotheſis have carefully collected and adduced every evidence they were able to obtain tending to ſupport their views, the reſult is that, ſo to ſay, no ſtone has been left unturned. Nevertheleſs, any ſuch hints as ſuggeſt themſelves from an examination of muſical inſtruments have hitherto remained unheeded. It may therefore perhaps intereſt the reader to have his attention drawn to a few ſuggeſtive ſimilarities occurring between inſtruments of the American Indians and of certain nations inhabiting the Eaſtern hemiſphere.

We have ſeen that the Mexican pipe and the Peruvian ſyrinx were purpoſely conſtructed ſo as to produce the intervals of the pentatonic ſcale only. Moreover, there are ſome additional indications of this ſcale having been in uſe with the American Indians. For inſtance, the muſic of the Peruvian dance *cachua* is deſcribed by Rivero and Tſchudi as having been very ſimilar to ſome Scotch national dances; and the moſt conſpicuous characteriſtics of the Scotch tunes are occaſioned by the frequently excluſive employment of intervals appertaining to the pentatonic ſcale. Preciſely the ſame ſeries of intervals we find adopted on certain Chineſe inſtruments, and indications are not wanting of the pentatonic ſcale having been popular among various races in Aſia at a remote period. The ſeries of intervals appertaining to the Chiriqui pipe, mentioned page 66, conſiſted of a ſemitone and two whole tones, like the *tetrachord* of the ancient Greeks.

In the Peruvian *huayra-puhura* made of talc, ſome of the pipes poſſeſs lateral holes. This contrivance, which is rather unuſual, occurs on the Chineſe *cheng*.

The *chayna*, mentioned page 69, ſeems to have been provided with a reed, like the oboe. In Hinduſtan we find a ſpecies of oboe called *ſhehna*. The *turé* of the Indian tribes on the river Amazon, mentioned page 73, reminds us of the trumpets *tooree*, or *tootooree*, of the Hindus. The name appears to have been known alſo to the Arabs; but there is no indication whatever of its having been tranſmitted to the Peninſula by the Moors, and afterwards to South America by the Portugueſe and Spaniards.

The wooden tongues in the drum *teponaztli* may be conſidered as a contrivance excluſively of the ancient American Indians. Nevertheleſs a conſtruction nearly akin to it may be obſerved in certain drums of the Tonga Iſlanders, of the Feejee Iſlanders, and of the natives of ſome iſlands in Torres Strait. Likewiſe ſome negro tribes in Weſtern and Central Africa have certain inſtruments of percuſſion which are conſtructed on a principle ſomewhat reminding us of the *teponaztli*.

The method of bracing the drum by means of cords, as exhibited in the *huehuetl* of the Mexican Indians, is evidently of very high antiquity in the Eaſt. It was known to the ancient Egyptians.

Rattles, Pandean pipes made of reed, and Conch trumpets, are found almoſt all over the world, wherever the materials of which they are conſtructed are eaſily obtainable. Still, it may be noteworthy that the Mexicans employed the Conch trumpet in their religious obſervances apparently in much the ſame way as it is made uſe of in the Buddhiſt worſhip of the Thibetans and Kalmuks.

As regards the ſonorous metal in the great temple at Tezcuco, certain inquirers are ſure that it was a gong. But it muſt be borne in mind that theſe inquirers detect everywhere traces proving an invaſion of the Mongols, which they maintain to have happened about ſix hundred years ago. Had they been acquainted with the little Peruvian bell, Fig. 67, they would have had more tangible muſical evidence in ſupport of their theory than the ſuppoſed gong; for this bell certainly bears a ſuggeſtive reſemblance to the little hand-bell which the Buddhiſts in Central Aſia uſe in their religious ceremonies.

The Peruvians interpolated certain ſongs of theirs, eſpecially thoſe which they were in the habit of ſinging while cultivating the fields of the Inca, with the word *hailli*, which ſignified "Triumph." As the ſubject of theſe compoſitions was principally the glorification of the Inca, the burden *hailli* is perhaps all the more likely to remind Euro-

peans of the Hebrew *hallelujah.* Moreover, Adair, who lived among the Indians of North America during a period of about forty years, mentions ſome other words which he found uſed as burdens in hymns ſung on ſolemn occaſions, and which appeared to him to correſpond with certain Hebrew words of a ſacred import.

As regards the muſical accompliſhments of the Indian tribes at the preſent day, they are far below the ſtandard which we have found among the anceſtors of theſe people. A period of three hundred years of oppreſſion has evidently had the effect of ſubduing the melodious expreſſions of happineſs and contentedneſs which in former times appear to have been quite as prevalent with the Indians as they generally are with independent and flouriſhing nations. The innate talent for muſic evinced by thoſe of the North American Indians who were converted to Chriſtianity ſoon after the emigration of the Puritans to New England, is very favourably commented on by ſome old writers. In the year 1661 John Elliot, a clergyman whom in the hiſtory of American church muſic we find named "The Apoſtle of the Indians," publiſhed a tranſlation of the Pſalms into Indian verſe, made by him, and entitled *Wame Ketoohomae Uketoohomaongaſh David.* The ſinging of theſe metrical Pſalms by the Indian converts in their places of worſhip appears to have been actually ſuperior to the ſacred vocal performances of their Chriſtian brethren from Europe; for, in the hiſtorical records we find it deſcribed by ſeveral witneſſes as "excellent" and "moſt raviſhing."

In other parts of America the Roman Catholic prieſts from Spain did not neglect to turn to account the ſuſceptibility of the Indians for muſic. Thus, in Central America the Dominicans compoſed as early as in the middle of the ſixteenth century a ſacred poem in the Guatemalian dialect, containing a narrative of the moſt important events recorded in the Bible. This production they ſang to the natives, and to enhance the effect, they accompanied the ſinging with muſical inſtruments. The alluring muſic ſoon captivated the heart of a powerful and fierce Cazique, who was thus induced to adopt the doctrines embodied in the compoſition, and to diffuſe them among his ſubjects, who likewiſe delighted in the performances. In Peru a ſimilar experiment, reſorted to by the prieſts who accompanied Pizarro's expedition, proved equally ſucceſsful. They dramatized certain ſcenes in the life of Chriſt, and repreſented them with muſic, which ſo greatly faſcinated the idolatrous Indians that many of them readily embraced the new faith. Nor are theſe entertainments diſpenſed with even at the preſent day by the Indian Chriſtians, eſpecially in the village churches

of the Sierra in Peru; and as ſeveral religious ceremonies have been retained by theſe people from their heathen forefathers, it may be ſurmiſed that their ſacred muſical performances alſo retain much of their ancient heathen character.

Moſt of the muſical inſtruments found among the American Indians at the preſent day, are evidently genuine old Indian contrivances as they exiſted long before the diſcovery of America. Take, for inſtance, the peculiarly ſhaped rattles, drums, flutes, and whiſtles of the North American Indians, of which ſome ſpecimens depoſited in the Muſeum are deſcribed in the Catalogue. A few African inſtruments, introduced by the Negro ſlaves, are now occaſionally found in the hands of the Indians, and have been, by ſome travellers, erroneouſly deſcribed as genuine Indian inventions. This is, for inſtance, the caſe with the African *marimba*, which has become rather popular with the natives of Guatemala, Central America; but ſuch adaptations are eaſily diſcernible.

Musical Instruments of European Nations during the Middle Ages.

Many repreſentations of muſical inſtruments of the middle ages have been preſerved in old manuſcripts, as well as in ſculptures and paintings forming ornamental portions of churches and ſimilar edifices. Valuable facts and hints are obtainable from theſe evidences, provided they are judiciouſly ſelected and carefully examined. The ſubject is, however, ſo vaſt that only a few obſervations on the moſt intereſting inſtruments can be offered here.

Unfortunately there ſtill prevails much uncertainty reſpecting ſeveral of the earlieſt repreſentations as to the preciſe century from which they date, and there is reaſon to ſurmiſe that in ſome inſtances the archæological zeal of muſical inveſtigators has aſſigned a higher antiquity to ſuch diſcoveries than can be ſatisfactorily proved.

Thus much appears certain, the moſt ancient European inſtruments known to us were in form and conſtruction more like thoſe of Aſiatic nations than was the caſe with later ones. Before a nation has attained to a rather high degree of civilization, its progreſs in the cultivation of muſic, as an art, is very ſlow indeed. The inſtruments found at the preſent day in Aſia are ſcarcely ſuperior to thoſe which were in uſe

among Oriental nations about three thousand years ago. It is, therefore, perhaps not surprising that no material improvement is perceptible in the construction of the instruments of European countries during the lapse of nearly a thousand years. True, reliable evidences referring to the first five or six centuries of the Christian era, are indeed but scanty; indications are, however, not wanting which may help the reflecting musician.

There are some early monuments of Christian art dating from the fourth century in which the lyre is represented. In one of them Christ is depicted as Apollo touching the lyre. This instrument occurs at an early period in Western Europe used in popular pastimes. In an Anglo-Saxon manuscript of the ninth century, in the British Museum (Cleopatra C. VIII.) are the figures of two gleemen, one playing the lyre and the other a double-pipe. An illustration of these performers in concert is given in Strutt's 'Sports and Pastimes of the People of England.' M. de Coussemaker has published in the 'Annales Archéologiques', Paris 1845, the figure of a crowned personage playing the lyre, which he found in a manuscript of the ninth or tenth century, in the library at Angers. The player twangs the strings with his fingers, while the Anglo-Saxon gleeman before mentioned uses a plectrum.

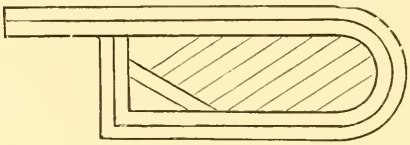


Fig. 70.—Cithara. IXth Century.

Cithara was a name applied to several stringed instruments greatly varying in form, power of sound, and compass. The illustration, Fig. 70, represents a cithara like those copied by the Abbot Martinus Gerbert from a manuscript of the ninth century. The manuscript was formerly in the library of the monastery of St. Blasius in the Black Forest, in Germany. When in the year 1768 the monastery of St. Blasius was destroyed by fire, this valuable book perished in the flames; fortunately, however, the Abbot Gerbert possessed tracings of the illustrations, which were saved from destruction. He published them, in the year 1774, in his work 'De Cantu et Musica sacra.' Several illustrations in the following pages, it will be seen, have been derived from this interesting source. As the older works on music were generally written in Latin, we do not learn from them the popular

names of the inſtruments ; the writers merely adopted ſuch Latin names as they thought the moſt appropriate. Thus, for inſtance, a very ſimple ſtringed inſtrument of a triangular ſhape (Fig. 71), and a ſomewhat ſimilar one of a ſquare ſhape (Fig. 72), were both deſignated by the name of *pſalterium.*

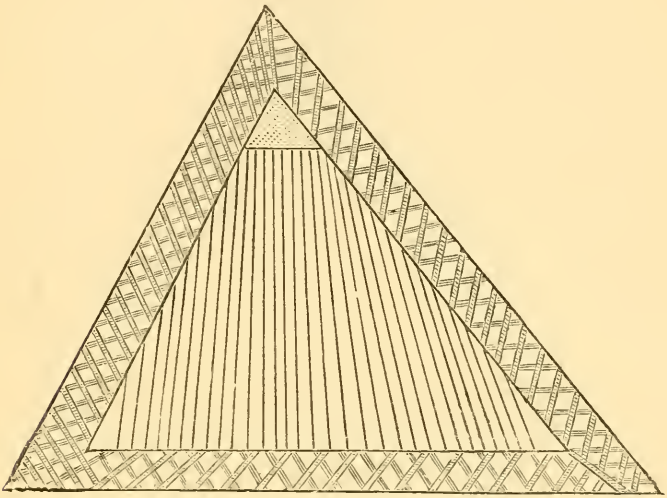


Fig. 71.—Triangular Psalterium. IXth Century. (St. Blaſius.)

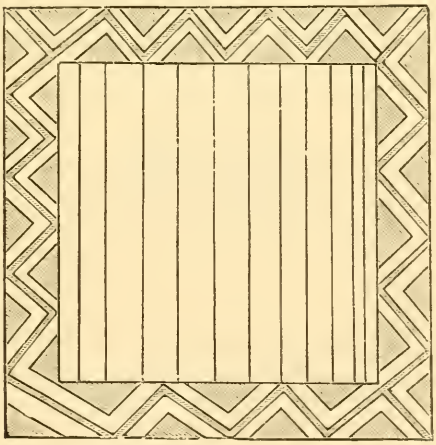


Fig. 72.—Square Psalterium. IXth Century. (St. Blaſius.)

Again, a ſtringed inſtrument much reſembling the triangular pſalterium we find called *cithara* (Fig. 73).

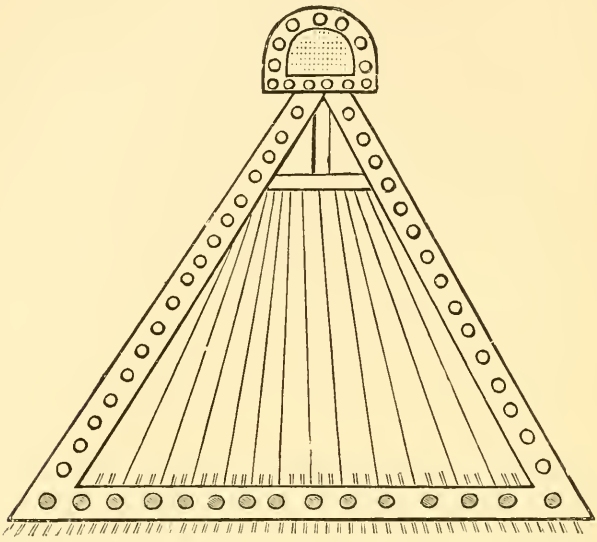


Fig. 73.—Cithara. IXth Century. (St. Blaſius.)

This inſtrument is evidently an improvement upon the pſalterium, in ſo far as it has a ſort of ſound-board at the top. Scarcely better, with regard to acouſtics, appears to have been the inſtrument deſignated as *nablum* (Fig. 74), which is depicted in a manuſcript of the ninth century at Angers.

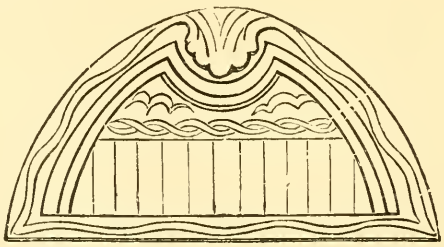


Fig. 74.—Nablum. IXth Century. (Angers.)

A ſmall pſalterium with ſtrings placed over a ſound-board (Fig. 75), was apparently the prototype of the *citole*,—a kind of dulcimer which

was played with the fingers. The names were not only often vaguely applied by the mediæval writers, but they changed alſo in almoſt every century. The pſalterium, or pſalterion (Italian *ſalterio*, Engliſh *pſaltery*), of the fourteenth century and later, had the trapezium ſhape of the dulcimer.

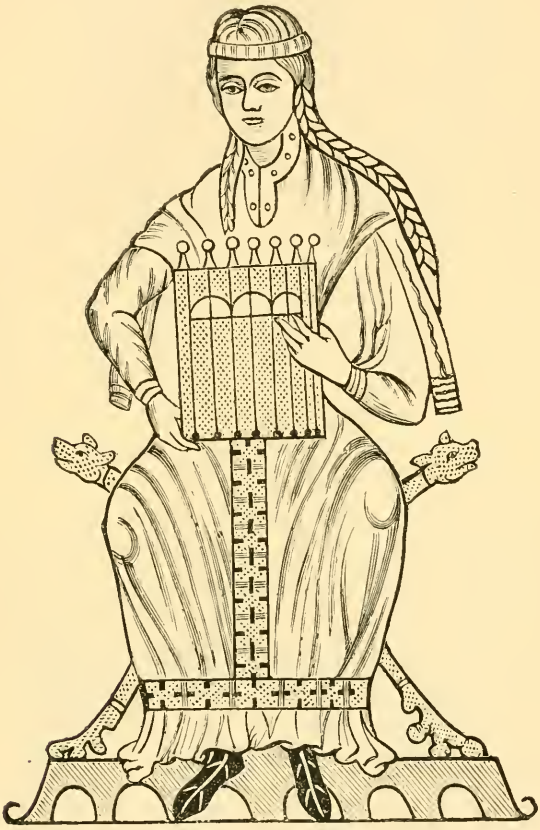


Fig. 75.—A Species of Citole. IXth Century. (St. Blaſius.)

The Anglo-Saxons frequently accompanied their vocal effuſions with a harp, more or leſs triangular in ſhape,—an inſtrument which may be conſidered rather as conſtituting the tranſition of the lyre into the harp. A very ſimilar inſtrument was known to the ancient Eaſtern nations long before the Chriſtian era.

The repreſentation of King David playing the harp (Fig. 76) is from an Anglo-Saxon manuſcript of the beginning of the eleventh

Fig. 76.—Anglo-Saxon Harp. XIth Century.

century, in the Britiſh Muſeum. The harp was eſpecially popular in central and northern Europe. It was the favourite inſtrument of the German and Celtic Bards, and of the Scandinavian Skalds. In the illuſtration from the manuſcript of the monaſtery of St. Blaſius (Fig. 77), twelve ſtrings and two ſound holes are given to it. A harp ſimilar in form and ſize, but without the front pillar, was known to the ancient Egyptians. Perhaps the addition was alſo non-exiſtant in the earlieſt ſpecimens appertaining to European nations. At any rate, a ſculptured figure of a ſmall harp conſtructed like the harps of the ancient Eaſtern nations has been diſcovered in the old church of Ullard in the county of Kilkenny in Ireland. Of this curious relic, which is ſaid to date from a period anterior to the year A.D. 800, a fac-ſimile, taken from Bunting's 'Ancient Muſic of Ireland,' is here given (Fig. 78). As Bunting was the firſt who drew attention to this ſculpture, his account of it may intereſt the reader. "The drawing," he ſays, "is taken from one of the ornamental compartments of a ſculptured croſs, at the old church of Ullard. From the ſtyle of the workmanſhip, as well as from the worn condition of the croſs, it ſeems older than the ſimilar monument at Monaſterboice, which is known to have been ſet up before the year 830. The ſculpture is rude; the circular rim which binds

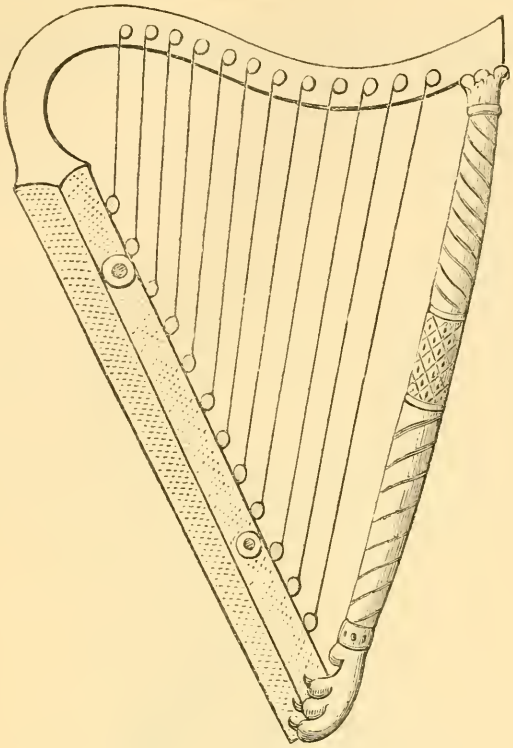


Fig. 77.—Harp. IXth Century. (St. Blasius.)

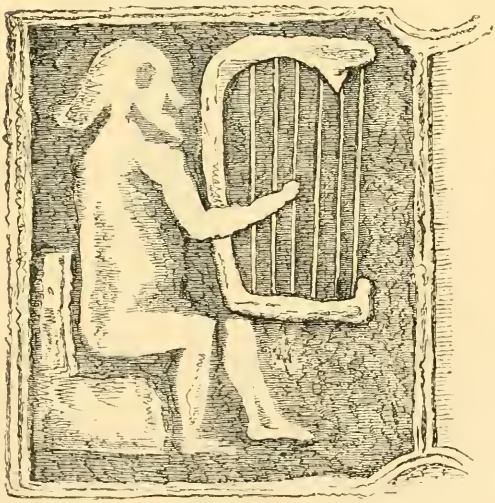


Fig. 78.—Early Irish Harp.

the arms of the croſs together is not pierced in the quadrants, and many of the figures originally in relievo are now wholly abraded. It is difficult to determine whether the number of ſtrings repreſented is ſix or ſeven; but, as has been already remarked, accuracy in this reſpect cannot be expected either in ſculptures or in many pictureſque drawings." Moreover, the Finns had a harp (*harpu*, *kantele*) with a ſimilar frame, devoid of a front pillar, until the commencement of the preſent century.

One of the moſt intereſting ſtringed inſtruments of the Middle Ages is the *rotta* (German, *rotte;* Engliſh, *rote*). It was ſounded by twanging the ſtrings, and alſo by the application of the bow. The firſt method was, of courſe, the older one. There can hardly be a doubt that, when the bow came into uſe, it was applied to certain popular inſtruments which previouſly had been treated like the *cithara* or the *pſalterium*. The Hindus at the preſent day uſe their *ſuroda* ſometimes as a lute and ſometimes as a fiddle. We do, in ſome meaſure, the ſame with the violin by playing occaſionally *pizzicato*. The *rotta*

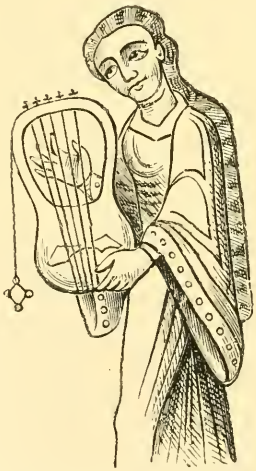


Fig. 79.—German Rotte. IXth Century. (St. Blaſius.)

depicted in the manuſcript of the monaſtery of St. Blaſius is called in Abbot Gerbert's work *cithara teutonica*, while the harp is called *cithara anglica;* from which it would appear that the former was regarded as pre-eminently a German inſtrument. Poſſibly its name may have been originally *chrotta*, and the continental nations may have adopted it from the Celtic races of the Britiſh Iſles, dropping the guttural ſound.

This hypotheſis is, however, one of thoſe which have been advanced by ſome muſical hiſtorians without any ſatisfactory evidence.

Fig. 80.—Rotta. VIIth Century. (Britiſh Muſeum.)

The repreſentation of King David playing on the *rotta* (Fig. 80), is from a Pſalter of the ſeventh century in the Britiſh Muſeum (Cott. MSS. Veſp. A. I). According to tradition, this Pſalter is one of the manuſcripts which were ſent by Pope Gregory to St. Auguſtine. The inſtrument much reſembles the lyre in the hand of the muſician, Fig. 22, who is ſuppoſed to be a Hebrew of the time of Joſeph. In the *rotta* the ancient Aſiatic lyre is eaſily recognizable. An illumination of the Royal Pſalmiſt playing the *rotta* forms the frontiſpiece of a MS. volume of the eighth century preſerved in the Cathedral Library of Durham. This manuſcript, which contains the Commentaries of the Pſalms by Caſſiodorus, was written, according to tradition, by the Venerable Bede. However this may be, the illumination is muſically intereſting inaſmuch as it repreſents a *rotta* of an oblong ſquare ſhape like that juſt noticed,

and reſembling the Welſh *crwth*. It has only five ſtrings, which the performer twangs with his fingers. Again, a very intereſting repreſentation of King David with a kind of *rotta* occurs in a MS. Pſalter of the tenth century, in the Britiſh Muſeum (Vitellius F. XI.). The manuſcript has been much injured by a fire in the year 1731. Nevertheleſs, Mr. J. O. Weſtwood has ſucceeded, with great care, and with the aid of a magnifying glaſs, in making out the lines of the figure. As it has been aſcertained that the Pſalter is written in the Iriſh ſemiuncial character (ſee 'The Archæological Journal of the Archæological Inſti-' tution of Great Britain and Ireland,' London, 1850), it is highly probable that the kind of *rotta* (Fig. 81), repreſents the Iriſh *cionar cruit*,

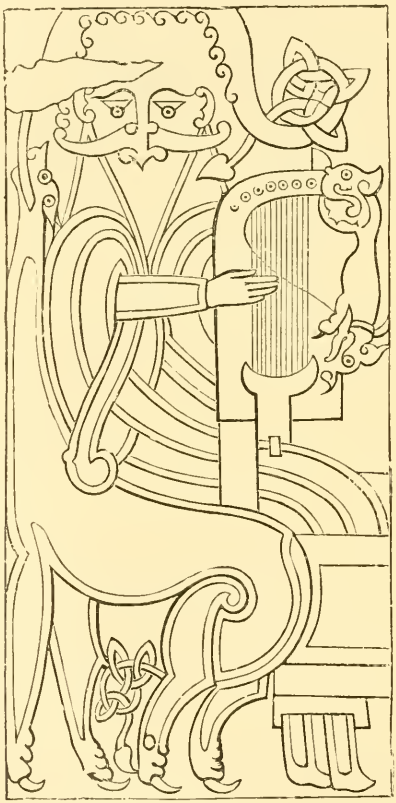


Fig. 81.—An Irish Rotta. X^th Century. (Britiſh Muſeum.)

which was played by twanging the ſtrings, and alſo by the application of a bow. Unfortunately we poſſeſs no well-authenticated repreſenta-

tion of the Welſh *crwth* of an early period ; otherwiſe we ſhould in all probability find it played with the fingers, or with a plectrum. Venantius Fortunatus, an Italian who lived in the ſecond half of the ſixth century, mentions in a poem the "Chrotta Britanna." He does not, however, allude to the bow, and there is no reaſon to ſuppoſe that it exiſted in England. Howbeit, the Welſh *crwth* (Anglo-Saxon, *crudh ;* Engliſh, *crowd*), is only known as a ſpecies of fiddle, cloſely reſembling the *rotta*, but having a fingerboard in the middle of the open frame, and being ſtrung with only a few ſtrings ; while the *rotta* had ſometimes above twenty ſtrings. It may intereſt the reader to examine the form of the *crwth*, Fig. 137. Edward Jones, in his 'Muſical and Poetical Relicks of the Welſh Bards,' records that the Welſh had before this kind of *crwth* a three-ſtringed one called 'Crwth Trithant,' which was, he ſays, "a ſort of violin, or more properly a rebeck." This three-ſtringed *crwth* was chiefly uſed by the inferior claſs of bards. It probably was the Mooriſh fiddle which is ſtill the favourite inſtrument of the itinerant bards of the Bretons in France, who call it *rébek*. The Bretons, it will be remembered, are cloſe kinſmen of the Welſh.

A player on the *crwth*, or *crowd* (a crowder) from a baſ-relief on the under part of the ſeats of the choir in Worceſter Cathedral (Fig. 82),

Fig. 82.—Crowd. English. About the XIIIth Century.

dates from the twelfth or thirteenth century. M. de Couſſemaker, in 'Annales Archéologiques,' Tome III., has publiſhed an engraving of a player on a *chrotta*, or a *crout* as he calls the inſtrument, which he copied from a manuſcript in the Bibliothèque Royale at Paris, and which

he pronounces to be of the eleventh century (Fig. 83). The player wears a crown on his head. In the original illuſtration ſome muſicians

Fig. 83.—French Crout. XIth Century. (Paris.)

placed at his ſide are performing on the pſalterium and other inſtruments. They are figured with uncovered heads; whence M. de Couſſemaker concludes that the *crout* was conſidered by the artiſt who drew the figures as the nobleſt inſtrument of thoſe repreſented. It was probably identical with the *rotta* of the ſame century on the continent. In an annotation to Allain de Lille's 'De Planctu Naturæ,' a manuſcript of the thirteenth century, it is ſtated that the *vioel*, or *fitola*, was formerly called *de roet*, and that it was a very popular inſtrument. Again, in a vocabulary of the year 1419, noticed by Ferdinand Wolf in his work 'Ueber die Lais, Sequenzen und Leiche,' Heidelberg, 1841, the *rott* is deſcribed as a *figella* [viol], and is mentioned together with the *rebula* [rebec].

An intereſting drawing of an Anglo-Saxon fiddle,—or *fithele*, as it was called,—is given in a manuſcript of the eleventh century preſerved in the Britiſh Muſeum (Cotton MSS., Tiberius, c. VI). The inſtrument is of a pear ſhape. It has four ſtrings. The bridge is not indicated (Fig. 84). A German fiddle of the ninth century, copied by Abbot Gerbert from the manuſcript of St. Blaſius, has only one ſtring (Fig. 85). It is called *lyra*. Almoſt preciſely the ſame inſtrument,

Fig. 84.—Anglo-Saxon Fiddle.
XIth Century. (Britiſh Muſeum.)

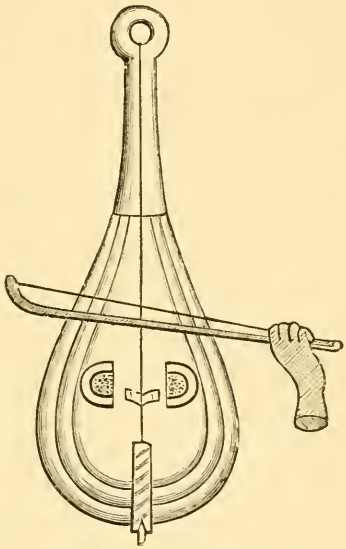


Fig. 85.—German Fiddle.
IXth Century. (St. Blaſius.)

provided with only one ſtring, is repreſented in an Anglo-Saxon Pſalter of the eleventh century, in the Britiſh Muſeum. Literal records of the employment of the fiddle-bow in Germany in the twelfth and thirteenth centuries are not wanting. For inſtance, in the famous 'Nibelungenlied,' Volker, the bold warrior and gentle minſtrel, is deſcribed as wielding the fiddle-bow not leſs dexterouſly than the ſword. And in 'Chronicon picturatum Brunſwicenſe' of the year 1203, the following "Wunderteecken" (miraculous ſign) is recorded as having occurred in the village of Oſſemer near Stendal: "On Wedneſday in Whitſun-week, while the parſon was fiddling to his peaſants who were dancing, there came a flaſh of lightning and ſtruck the parſon's arm which held the fiddle-bow, and killed XXIV people on the ſpot." (The German record is as follows: "In duſſem Jare geſchah ein Wunderteecken by Stendal

in dem Dorppe gehrten Oſſemer, dar ſat de Parner des Midweckens in den Pingxſten und veddelte ſynen Buren to dem Danſe, da quam ein Donreſchlag unde ſchloch dem Parner ſynen Arm aff mit dem Veddelbogen unde XXIV Lüde tod up dem Tyn.")

Among the oldeſt repreſentations of performers on inſtruments of the violin kind found in England thoſe deſerve to be noticed which are painted on the interior of the roof of Peterborough Cathedral. They are ſaid to date from the twelfth century. One of theſe figures is particularly intereſting on account of the ſurpriſing reſemblance which his inſtrument bears to our preſent violin. Not only the incurvations on the ſides of the body, but alſo the two ſound-holes are nearly identical in ſhape with thoſe made at the preſent day. Reſpecting the reliance to be placed on ſuch evidence, it is neceſſary to ſtate that the roof of Peterborough Cathedral is recorded to have been conſtructed between the years 1177 and 1194, during the preſidency of the Abbot Benedict, and that the ceiling, having been retouched about the year 1788, was thoroughly repaired in the year 1835. Although we find it aſſerted that "the greateſt care was taken to retain every part, or to reſtore it to its original ſtate, ſo that the figures, even where retouched, are in effect the ſame as when firſt painted," it, nevertheleſs, remains a debatable queſtion whether the reſtorers have not admitted, perhaps unintentionally, ſome ſlight alterations, and have thereby ſomewhat moderniſed the original appearance of the inſtruments. A ſlight touch with the bruſh at the ſound-holes, the ſcrews, or the curvatures, would ſuffice to produce modifications which might to the artiſt appear as being only a renovation of the original repreſentation, but which to the muſical inveſtigator greatly impair the value of the evidence. At any rate, in renovating effaced or indiſtinct portions of the original delineations, the reſtorers might eaſily be too much influenced by ſuch notions as they acquired from a reference to inſtruments of their own time. Sculptures are, therefore, perhaps generally more reliable in evidence than freſcoes.

The conſtruction of the *organiſtrum* (Fig. 86), requires but little explanation. A glance at the finger-board reveals at once that the different tones were obtained by raiſing the keys placed on the neck under the ſtrings, and that the keys were raiſed by means of the handles at the ſide of the neck. Of the two bridges ſhown on the body, the one ſituated neareſt the middle was formed by a wheel in the inſide, which projected through the ſound-board. The wheel, which ſlightly touched the ſtrings vibrated them by friction when turned by the handle at the end. The order of intervals was *c*, *d*, *e*, *f*, *g*, *a*, *b-flat*, *b-natural*, *c*. Theſe were obtainable on the higheſt ſtring. The other two ſtrings,

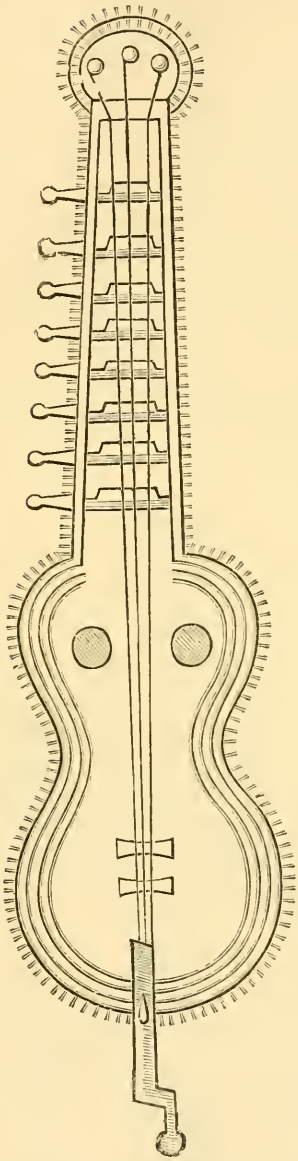


Fig. 86.—ORGANISTRUM. IXth Century. (St. Blasius.)

there is reason to suppose, were generally tuned a fifth and an octave below the highest. The *organistrum* may be regarded as the predecessor of the hurdy-gurdy. It was a rather cumbrous contrivance. Two persons seem to have been required to sound it, one to turn the handle, and the other to manage the keys. Thus it is generally represented in mediæval concerts. About the thirteenth century the *organistrum* acquired the name of *symphonia* or *chifonie*. Also the names *lyra* and *viella* were in course of time applied to it. In no kind of nomenclature perhaps have people been less careful than in that of their musical instruments. In the fifteenth century the organistrum, or hurdy-gurdy, was also called *rota*. Joannes Cochlæus ('Tetrachordum Musices Joannis Coclei,' Nurnberg 1512) says that the *rota* is chiefly used by blind beggars, and he especially mentions the wheel inside. Some modern inquirers have thus been led to conjecture that the *rotta*, or *rote* before described, which was in fact quite a different instrument, must have been a hurdy-gurdy.

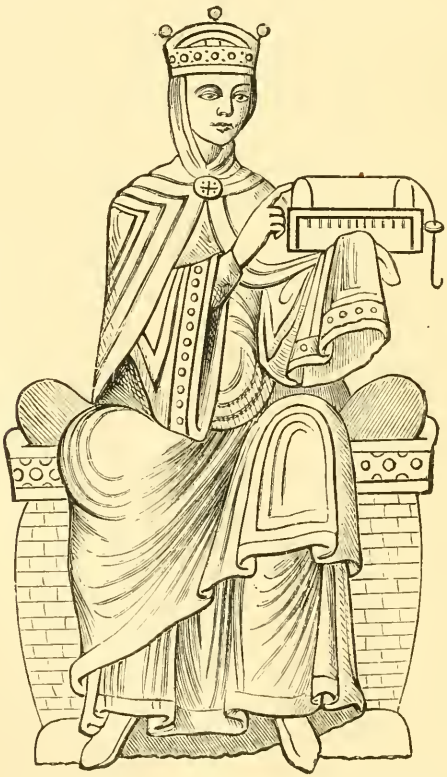
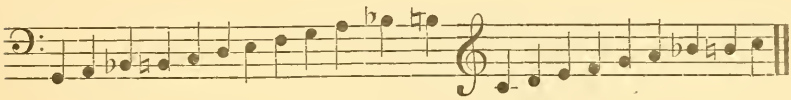


Fig. 87.—Monochord. IXth Century. (St. Blasius.)

The *monochord* (Fig. 87) was mounted with a ſingle ſtring ſtretched over two bridges which were fixed on an oblong box. The ſtring could be tightened or ſlackened by means of a tuning ſcrew inſerted into one end of the box. The intervals of the ſcale were marked on the ſide, and were regulated by a ſort of movable bridge placed beneath the ſtring when required. As might be expected, the *monochord* was chiefly uſed by theoriſts; for any muſical performance it was but little ſuitable. About a thouſand years ago, when this monochord was in uſe, the muſical ſcale was diatonic, with the exception of the interval of the ſeventh, which was chromatic inaſmuch as both *b-flat* and *b-natural* formed part of the ſcale. The following notation exhibits the compaſs as well as the order of intervals adhered to about the tenth century.



This ought to be borne in mind in examining the repreſentations of muſical inſtruments tranſmitted to us from that period.

As regards the wind inſtruments popular during the Middle Ages, ſome were of quaint form as well as of rude conſtruction.

The *chorus*, or *choron*, was conſtructed with one tube (Fig. 88) or with two tubes (Fig. 89). There were ſeveral varieties of this inſtru-

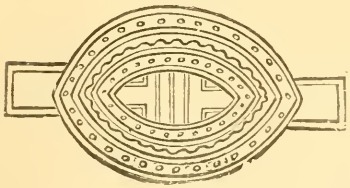


Fig. 88.—Single Chorus. X^th Century.

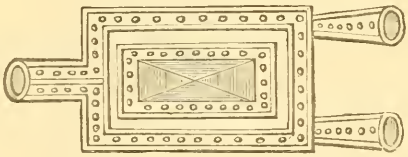


Fig. 89.—Double Chorus. X^th Century.

ment. The illuſtration, Fig. 90, exhibits a *chorus* conſtructed with a bladder into which the tube is inſerted. Alſo ſkin was uſed inſtead of bladder. Sometimes it was the ſkin of a pig, in which the ſhape of the animal was retained. This kind of *chorus* reſembled the bagpipe; another kind reſembled the *poongi* of the Hindus, mentioned page 57. Furthermore, the name *chorus* was alſo applied to certain ſtringed inſtruments. One of theſe had much the form of the *cithara*, Fig. 70. It appears, however, probable that *chorus* or *choron* originally deſignated a horn (Hebrew, *Keren;* Greek, *Keras;* Latin, *cornu*).

The flutes of the Middle Ages were blown at the end, like the flageolet. The double flute has been already mentioned. An intereſting drawing of a player on the double flute of the eleventh century occurs in a MS. in the Bibliothèque Royale, Paris.

Fig. 90.—Chorus. IXth Century. (St. Blaſius.)

Of the *ſyrinx* there are extant ſome illuſtrations of the ninth and tenth centuries, which exhibit the inſtrument with a number of tubes tied together, juſt like the Pandean pipe ſtill in uſe. In one ſpecimen, depicted in a manuſcript of the eleventh century in the Bibliothèque Royale, Paris, the tubes were inſerted into a bowl-ſhaped box (Fig. 91). This is probably the *freſtele*, *fretel*, or *fretiau*, which in the twelfth and thirteenth centuries was in favour with the French Ménétriers.

Some large Anglo-Saxon trumpets are depicted in a manuscript of the eighth century in the British Museum. The largest kind of trumpet was placed on a stand when blown. Of the *oliphant*, or hunting horn, some fine specimens, which are in the South Kensington Museum, will be found described in the Catalogue.

Fig. 91.—A Species of Syrinx. XIth Century. (Bibliothèque Royale, Paris.)

The *sackbut* (Fig. 92) probably made of metal, could be drawn out to alter the pitch of sound.

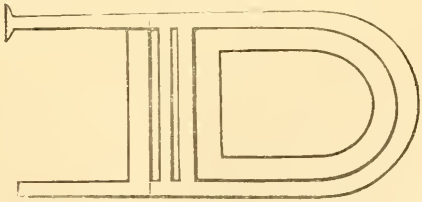


Fig. 92.—Sackbut. IXth Century. (From a MS. in Boulogne.)

The *ſackbut* of the ninth century had, however, a very different ſhape to that in uſe about three centuries ago. The latter much more reſembled the preſent *trombone*. The Germans call the trombone *poſaune*,—a name the original meaning of which is unknown, but which may poſſibly be a corruption of *buccina*, ſince we find it by old German writers called *buſin*. The name *ſackbut* is ſuppoſed to be a corruption of *ſambuca*. The French, about the fifteenth century, called it *ſacqueboute* and *ſaquebutte*.

The moſt important wind inſtrument,—in fact, the king of all the muſical inſtruments, is the organ.

The *pneumatic organ* is ſculptured on an obeliſk which was erected in Conſtantinople under Theodoſius the Great, towards the end of the fourth century. (Fig. 93.) The bellows were preſſed by men ſtanding

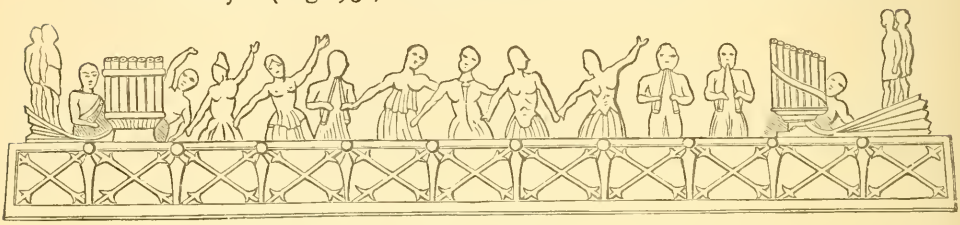


Fig. 93.—Pneumatic Organ. IVth Century. (Conſtantinople.)

on them. This intereſting monument alſo exhibits performers on the double flute. Alſo the *hydraulic organ*, which we have found among the Ancients, and which is recorded to have been already known about two hundred years before the Chriſtian era, was, according to ſome ſtatements, occaſionally employed in churches during the earlier centuries of the Middle Ages. Probably it was more frequently heard in ſecular entertainments, for which it was more ſuitable. At the beginning of the fourteenth century it appears to have been entirely ſupplanted by the pneumatic organ. The earlieſt organs had only about a dozen pipes. The largeſt, which were made about nine hundred years ago, had only three octaves, in which the chromatic intervals did not occur. Some progreſs in the conſtruction of the organ is exhibited in an illuſtration dating from the twelfth century, in a MS. Pſalter of Eadwine, preſerved in the library of Trinity College, Cambridge. The inſtrument (Fig. 94) has ten pipes,—or perhaps fourteen, as four of them appear to be double pipes. It required four men exerting all their power to produce the neceſſary wind, and two men to play the inſtrument. Moreover, both players are depicted alſo buſily engaged in directing the blowers about the proper ſupply of wind. Six men and only fourteen pipes! It muſt be admitted

Fig. 94.—Organ. XIIth Century. (Cambridge.)

that ſince the twelfth century ſome progreſs has been made, at all events, in the conſtruction of the organ.

The pedal is generally believed to have been invented by Bernhard, a German, who lived in Venice, about the year 1470. There are, however, indications extant pointing to an earlier date of its invention. Perhaps Bernhard was the firſt who, by adopting a more practicable conſtruction, made the pedal more generally known. On the earlieſt organs the keys of the finger-board were of enormous ſize, compared with thoſe of the preſent day,—ſo that a finger-board with only nine keys had a breadth of from four to five feet. The organiſt ſtruck the keys down with his fiſt, as is done in playing the *carillon*, ſtill in uſe on the Continent, of which preſently ſome account will be given. The ſtatement commonly found in hiſtorical diſſertations on the organ, that the old German appellation *Orgelſchläger* ("Organ-beater") denoting the organiſt, aroſe from this method of playing, may be correct, but it is doubtful, ſince alſo the lute player had a ſimilar appellation, he being called Lautenſchläger (*i.e.* "Lute-beater") although he vibrated the ſtrings merely with his fingers.

Of the little portable organ, known as the *regal*, or *regals*, often taſtefully ſhaped and embelliſhed, ſome intereſting ſculptured repreſentations are ſtill extant in the old eccleſiaſtical edifices of England and Scotland. There is, for inſtance, in Beverley Minſter a figure of a man playing on a ſingle regal, or a regal provided with only one ſet of pipes; and, in Melroſe Abbey, the figure of an angel holding in his

arms a double regal, the pipes of which are in two ſets. The regal generally had keys like thoſe of the organ, but ſmaller. A painting by Melozzo da Forli, who lived in the fifteenth century, contains a regal which has keys of a peculiar ſhape, rather reſembling the piſtons of certain braſs inſtruments. The illuſtration (Fig. 95) has been drawn

Fig. 95.—Regal. XVth Century.

from the painting alluded to, which is in the National Gallery. To avoid miſapprehenſion, it is neceſſary to mention that the name *regal* (or *regals*, *rigols*) was alſo applied to an inſtrument of percuſſion with ſonorous ſlabs of wood. This contrivance was, in ſhort, a kind of harmonica, reſembling in ſhape, as well as in the principle of its conſtruction, the little glaſſ-harmonica, a mere toy, in which ſlips of glaſs are arranged according to our muſical ſcale. There is a drawing of a regal of this kind in the plates belonging to the 'Encyclopédie méthodique,' Tome III., Paris, 1784. In England it appears to have been ſtill known in the beginning of the eighteenth century. Graſſineau, in his Muſical Dictionary, London, 1740, deſcribes the "Rigols" as "a kind of muſical inſtrument conſiſting of ſeveral ſticks bound together, only ſeparated by beads. It makes a tolerable harmony, being well ſtruck with a ball at the end of a ſtick." In the earlier centuries of the Middle Ages there appear to have been ſome inſtruments of percuſſion in favour to which Graſſineau's expreſſion "a tolerable harmony" would ſcarcely have been applicable. Drums, of courſe, were known, and their rhythmical noiſe muſt have been ſoft

muſic, if compared with the ſhrill ſounds of the *cymbalum* (Fig. 96) a contrivance conſiſting of a number of metal plates ſuſpended on cords, ſo that they could be claſhed together ſimultaneouſly; or with the clangour of the *cymbalum* conſtructed with bells inſtead of plates (Fig. 97);

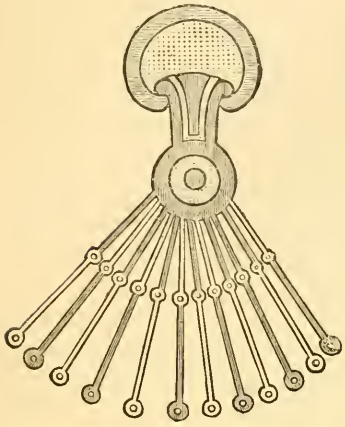


Fig. 96.—Cymbalum. IXth Century. (St. Blaſius.)

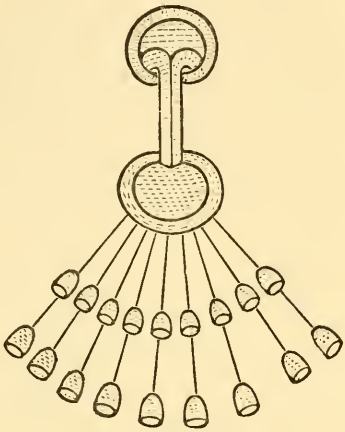


Fig. 97.—Cymbalum. IXth Century. (St. Blaſius.)

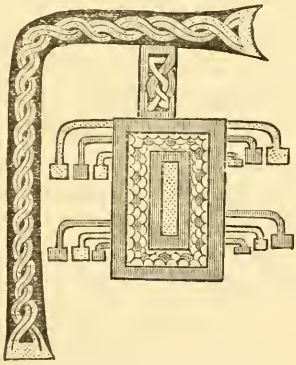


Fig. 98.—Bunibulum. IXth Century. (St. Blaſius.)

or with the piercing noiſe of the *bunibulum*, or *bombulom* (Fig. 98) an inſtrument which conſiſted of an angular frame to which were looſely attached metal plates of various ſhapes and ſizes. The lower part of the frame conſtituted the handle. To produce the noiſe it evidently was ſhaken ſomewhat like the Siſtrum of the ancient Egyptians.

The *triangle* nearly resembled the instrument of this name in use at the present day; it was, however, more elegant in shape, and had some metal ornamentation in the middle.

The *tintinnabulum* consisted of a number of bells arranged in regular order and suspended in a frame.

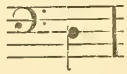
Respecting the orchestras, or musical bands, represented on monuments of the Middle Ages, there can hardly be a doubt that the artists who made them were not unfrequently led by their imagination rather than by an adherence to actual fact. It is, however, not likely that they introduced into such representations instruments that were never admitted in the orchestras which they depicted, and which would have appeared inappropriate to the contemporaries of the artists. An examination of one or two of the orchestras may therefore find a place here, especially as they throw some additional light upon the characteristics of the instrumental music of mediæval time.

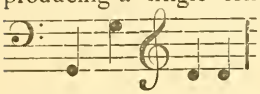
A very interesting group of musical performers, dating, it is said, from the end of the eleventh century, is preserved in a bas-relief which formerly ornamented the Abbey of St. Georges de Boscherville near Rouen, and which is now removed to the Museum of Rouen. The Abbey of Boscherville was founded in the year 1066 by Raoul Sire de Tancarville. The orchestra alluded to, (Fig. 99), comprises twelve performers, most of whom wear a crown. The first of them plays upon a *vielle*, or viol, which he holds between his knees as the violoncello is held. His instrument is scarcely as large as the smallest viola da gamba. By his side are a royal lady and her attendant, the former playing on an *organistrum* of which the latter is turning the wheel. Next to these is represented a performer on a *syrinx* of the kind shown in the engraving Fig. 91; and next to him a performer on a stringed instrument resembling a lute, which, however, is too much dilapidated to be recognizable. Then we have a musician with a small stringed instrument resembling the *nablum*, Fig. 74. The next musician, also represented as a royal personage, plays on a small species of harp. Then follows a crowned musician playing the *vielle*, which he holds in almost precisely the same manner as the violin is held. Again, another, likewise crowned, plays upon a harp, using with the right hand a plectrum, and with the left hand merely his fingers. The last two performers, apparently a nobleman and a gentlewoman, are engaged in striking the *tintinnabulum*,—a set of bells in a frame.

In this group of crowned and respectable minstrels the sculptor has introduced a tumbler standing on his head, perhaps the vocalist of the company, as he has no instrument to play upon. Very likely the sculptor desired to symbolize the hilarious effects which music is

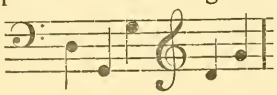
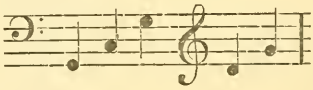
Fig. 99.—Bas-relief from the Abbey of St. Georges de Boscherville, Normandy. XIth Century.

capable of producing, as well as its elevating influence upon the devotional feelings.

The two poſitions in which we find here the *vielle* held is worthy of notice, inaſmuch as it refers the inquirer further back than might be expected for the origin of our peculiar method of holding the violin, and the violoncello, in playing. There were ſeveral kinds of the *vielle* in uſe differing in ſize and in compaſs of ſound. The moſt common number of its ſtrings was five. It was tuned in various ways, according to the particular kind of *vielle*. One kind had a ſtring which was tuned to the note  running at the ſide of the finger-board inſtead of over it; this ſtring was, therefore, only capable of producing a ſingle tone. The four other ſtrings were tuned thus,—



Two other ſpecies, on which all the ſtrings were placed over the finger-board, were tuned,—

 and 

The contrivance of placing a ſtring or two at the ſide of the finger-board is evidently very old, and was alſo gradually adopted on other inſtruments of the violin claſs of a ſomewhat later period than that of the *vielle*; for inſtance, on the *lira di braccio* of the Italians. It was likewiſe adopted on the lute, to obtain a fuller power in the baſs; and hence aroſe the *theorbo*, the *arch-lute*, and other varieties of the old lute.

A grand aſſemblage of muſical performers (Fig. 100) is repreſented on the Portico della Gloria of the famous Pilgrimage Church of Santiago da Compoſtella, in Spain. This Triple Portal, which is ſtated by an inſcription on the lintel to have been executed by one Maſter Mateo, in the year 1188, conſiſts of a large ſemicircular arch, with a ſmaller arch on either ſide. The central arch is filled by a tympanum, on which are numerous figures in high relief, the principal being a coloſſal ſeated figure of our Bleſſed Lord, ſurrounded by figures of the Evangeliſts and of Angels bearing the inſtruments of His Paſſion; the reſt of the ſpace being filled up by a number of ſmall figures repreſenting the bleſſed. Around the tympanum are twenty-four life-ſized ſeated figures, repreſenting the twenty-four Elders ſeen by St. John in the Apocalypſe, each with an inſtrument of muſic. Theſe inſtruments are carefully repreſented, and are of great intereſt as ſhowing thoſe in uſe in Spain at about the twelfth century.

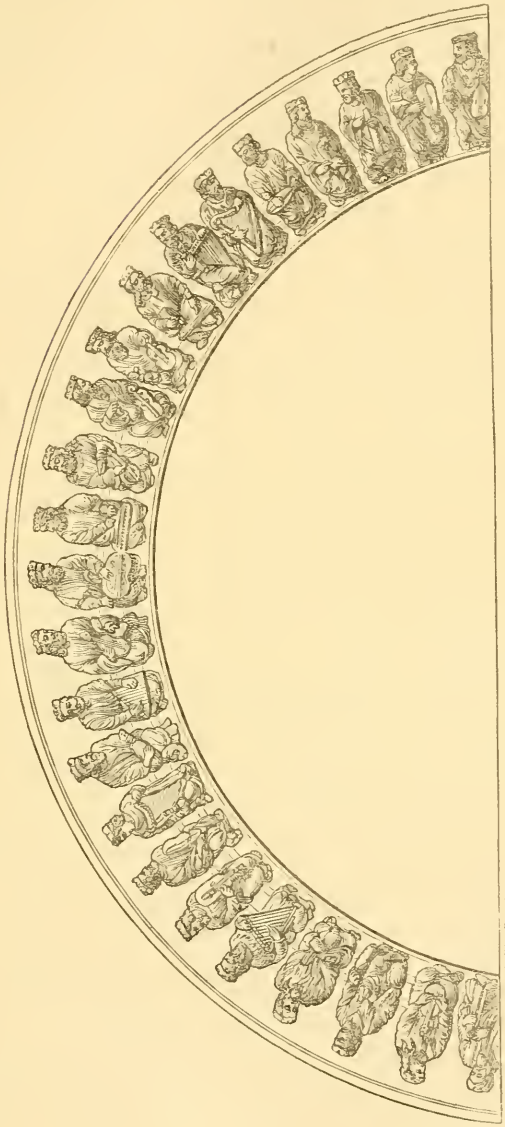


Fig. 100.—Musical Performers represented on the Portico della Gloria of the Church of Santiago da Compostella, in Spain. XIIth Century.

Below the central figure in the tympanum is another, little inferior in ſize, of St. James (Sant Jago), the patron ſaint of the church and of Spain. This figure is ſupported by a beautifully-carved pillar repreſenting the Tree of Jeſſe, and reſting on figures of crouching beaſts. The piers on either ſide reſt on ſimilar crouching beaſts, and are ſurmounted by figures of the Twelve Apoſtles. On one of the ſmaller arches is repreſented Purgatory, the ſouls being confined by a broad band, from which they are releaſed by angels, who place them among the bleſſed in the centre; on the other arch the loſt ſouls are repreſented as being carried away by demons.

A caſt of this ſculpture is in the South Kenſington Muſeum. It was made at Santiago by Signor Dominic Brucciani, for the Muſeum, by the ſpecial permiſſion of the authorities of the Cathedral.

In examining the group of muſicians on this ſculpture, the reader will probably recognize ſeveral inſtruments in their hands, which are identical with certain ones with which we have already become acquainted in the preceding pages. The *organiſtrum*, played by two perſons, is placed in the centre of the group, perhaps owing to its being the largeſt of the inſtruments rather than that it was diſtinguiſhed by any ſuperiority in ſound or muſical effect. The ornamental deſigns, exhibited on its body and neck, were perhaps on the actual inſtrument carved in wood. Alſo the hurdygurdy was, ſome centuries ago, not unfrequently highly embelliſhed.

Beſides the ſmall harp ſeen in the hands of the eighth and nineteenth muſicians, which is in form nearly identical with the Anglo-Saxon harp already noticed,—we find a ſmall triangular harp, without a front-pillar, held on the lap by the fifth and eighteenth muſicians.

The *ſalterio*, on the lap of the tenth and ſeventeenth muſicians, reſembles the dulcimer, but is played with the fingers inſtead of with hammers.

The moſt intereſting inſtrument in this orcheſtra is, however, the *vihuela*, or Spaniſh viol, of the twelfth century. The firſt, ſecond, third, ſixth, ſeventh, ninth, twentieth, twenty-ſecond, twenty-third, and twenty-fourth muſicians are depicted with a *vihuela* which bears a cloſe reſemblance to the *rebec*. The inſtrument is repreſented with three ſtrings, although in one or two inſtances five tuning-pegs are indicated. A large ſpecies of *vihuela* is given to the eleventh, fourteenth, fifteenth, and ſixteenth muſicians. This inſtrument differs from the *rebec* in as far as its body is broader and has incurvations at the ſides. Alſo the ſound-holes are different in form and poſition.

The bow does not occur with any of theſe viols. But, as will be obſerved, the muſicians are not repreſented in the act of playing; they

are tuning and preparing for the performance. The ſecond of them is adjuſting the bridge of his inſtrument. Perhaps, therefore, the ſculptor thought himſelf juſtified in omitting the bow, which, exhibited in the hands of ſo many players would have impaired the artiſtic effect of the ſcene. However this may be, the Spaniards, certainly about a century later than the time when this ſculpture was made, had ſeveral kinds of the *vihuela*, with ſome of which the bow was not uſed. The *vihuela de arco*, played with a bow, was ſtrung with four, five, or ſix ſtrings. The *vihuela de penola* was ſtrung with wire ſtrings which were uſually ſtruck with a quill. A large kind of *vihuela de arco* was called *citola albordada*. The rebec, which had three ſtrings, was called *rabé moriſco*. Not a few of the Spaniſh inſtruments of that period had names derived from the Arabic.

The Minſtrels' Gallery of Exeter Cathedral dates from the fourteenth century. It was conſtructed in the reign of Edward III. for the accommodation of muſicians engaged in performances on occaſions of ſolemn celebrations. Its front is divided into twelve niches, each of which contains a winged figure, or an angel, playing on an inſtrument of muſic. (Fig. 101.) There is a caſt of this famous ſculpture in the South Kenſington Muſeum. The inſtruments are ſo much dilapidated that ſome of them cannot be clearly recognized; but, as far as is aſcertainable, they appear to be as follows:—1. The *cittern*. It poſſibly may have been intended for the lute, but its ſhape more reſembles the old Engliſh cittern, ſtrung with wire. 2. The *bagpipe*. 3. The *clarion*, a ſmall trumpet having a ſhrill ſound. 4. The *rebec*. 5. The *pſaltery*. 6. The *ſyrinx*. 7. The *ſackbut*. 8. The *regals*. 9. The *gittern*, a ſmall guitar ſtrung with catgut. 10. The *ſhalm*. 11. The *timbrel*. It reſembles our preſent tambourine, and has a double row of gingles. 12. *Cymbals*.

Moſt of theſe inſtruments have been already noticed in the preceding pages. The *ſhalm*, or *ſhawm*, was a pipe with a reed in the mouth-hole. An old drawing repreſents it with a rather wide bell; in the ſculptures this ſhape of the bell is generally not apparent, but moſt of theſe monuments have ſuffered from the tooth of time. In Germany, where the ſhalm was called *ſchalmey*, it cloſely reſembled the *zamr*, or *zourna*, of the Arabs, from whom it was probably derived. Its reed was protected by a cover having an orifice at the top through which the inſtrument was blown. However, from its name, evidently derived from *calamus*, it might be conjectured that the Romans introduced it into Weſtern Europe.

The *wait* was an Engliſh wind inſtrument of the ſame conſtruction. If it differed in any reſpect from the *ſhalm*, the difference conſiſted

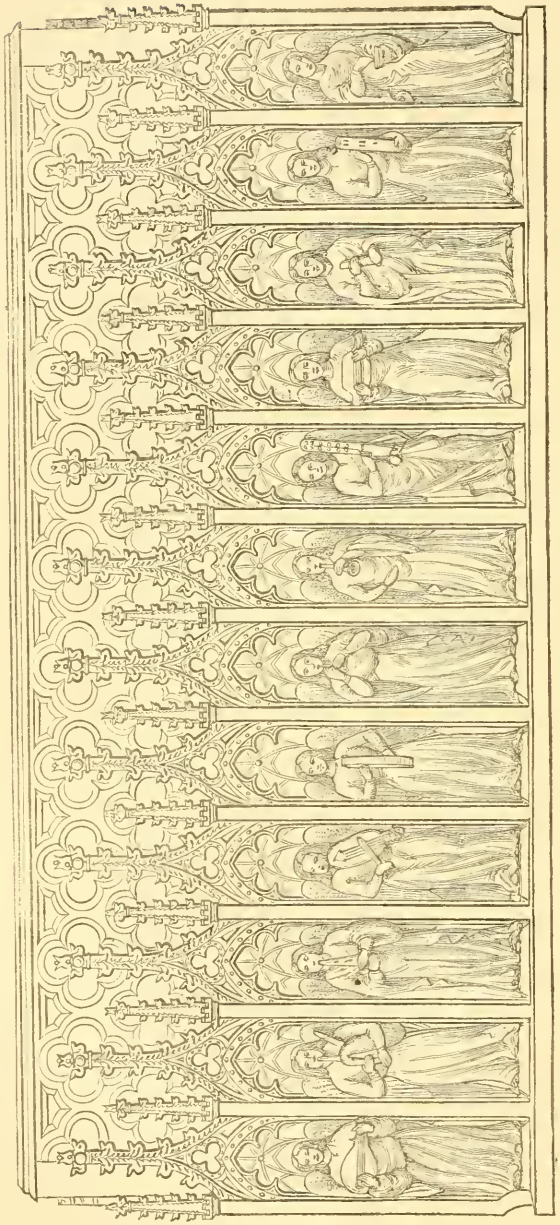


Fig. 101.—Front of the Minstrels' Gallery, Exeter Cathedral. XIVth Century.

probably in the ſize only. The *wait* obtained its name from being uſed principally by watchmen, or *waights*, to proclaim the time of night. Such were the poor anceſtors of our fine oboe and clarinet.

Post-mediæval Musical Instruments.

Attention muſt now be drawn to ſome inſtruments which originated during the Middle Ages, but which attained their higheſt popularity at a ſomewhat later period.

The *lute*, for inſtance, was about three hundred years ago almoſt as popular as is at the preſent day the pianoforte. Originally it had eight thin catgut ſtrings arranged in four pairs, each pair being tuned in uniſon; ſo that its open ſtrings produced four tones. In the courſe of time more ſtrings were added. Until the ſixteenth century twelve was the largeſt number, or rather, ſix pairs. However, eleven was for ſome centuries the moſt uſual number of ſtrings. Theſe produced ſix tones, ſince they were arranged in five pairs and a ſingle ſtring. The latter, called the *chanterelle*, was the higheſt. According to Thomas Mace, the Engliſh lute in common uſe during the ſeventeenth century had twenty-four ſtrings, arranged in twelve pairs, of which ſix pairs ran over the finger-board, and the other ſix by the ſide of it. This lute was therefore, more properly ſpeaking, a theorbo. The neck of the lute, and alſo of the theorbo, had frets conſiſting of catgut ſtrings tightly faſtened round it at the proper diſtances required for enſuring a chromatic ſucceſſion of intervals. The illuſtration, Fig. 102, repreſents a lute-player of the ſixteenth century. The frets are not indicated in the old engraving from which the illuſtration has been taken. The order of tones adopted for the open ſtrings varied in different centuries and countries. This was alſo the caſe with the notation of lute muſic. The moſt common practice was to write the muſic on ſix lines, the upper line repreſenting the firſt ſtring; the ſecond line, the ſecond ſtring, and ſo on; and to mark with letters on the lines the frets at which the fingers ought to be placed—*a* indicating the open ſtring, *b* the firſt fret, *c* the ſecond fret, and ſo on.

The lute was made of various ſizes, according to the purpoſe for which it was intended in performance. The treble-lute was of the

Fig. 102.—Lute. XVIth Century.

ſmalleſt dimenſions, and the baſs-lute of the largeſt. The *theorbo*, or double-necked lute, which appears to have come into uſe during the ſixteenth century, had, in addition to the ſtrings ſituated over the finger-board, a number of others running at the left ſide of the finger-board, which could not be ſhortened by the fingers, and which produced the baſs tones. The largeſt kinds of theorbo were the *archlute* and the *chitarrone.*

It is, however, unneceſſary to enter here into a detailed deſcription of any inſtruments which have been popular during the laſt three centuries, ſince the Muſeum contains ſpecimens of many of them of which ſome account is given in the Catalogue. Suffice it to refer the reader to the illuſtrations of the cither, virginal, ſpinet, clavichord, harpſichord, and other antiquated inſtruments much eſteemed by our forefathers.

Thoſe who examine theſe old relics will probably wiſh to know ſomething about their quality of tone. "How do they ſound? Might "they ſtill be made effective in our preſent ſtate of the art?" are questions which naturally occur to the muſical inquirer having ſuch inſtruments brought before him. A few words bearing on theſe queſtions may therefore not be out of place here.

It is generally and juſtly admitted that in no other branch of the art of muſic has greater progreſs been made ſince the laſt century than in the conſtruction of muſical inſtruments. Nevertheleſs, there are thoſe who think that we have alſo loſt ſomething here which might with advantage be reſtored. Our various inſtruments, by being more and more perfected, are becoming too much alike in quality of ſound, or in that character of tone which the French call *timbre*, and the Germans *Klangfarbe*, and which Profeſſor Tyndall in his 'Lectures on Sound' has tranſlated *clang-tint.* Every muſical compoſer knows how much more ſuitable one *clang-tint* is for the expreſſion of a certain emotion than another. Our old inſtruments, imperfect though they were in many reſpects, poſſeſſed this variety of *clang-tint* to a high degree. Neither were they on this account leſs capable of expreſſion than the modern ones. That no improvement has been made during the laſt two centuries in inſtruments of the violin claſs is a well-known fact. As to lutes and cithers the preſent collection contains ſpecimens ſo rich and mellow in tone as to cauſe muſicians to regret that theſe kinds of inſtruments have entirely fallen into oblivion.

Moreover, as regards beauty in appearance, our antiquated inſtruments were ſuperior to our preſent ones. Indeed, we have now ſcarcely

a muſical inſtrument which can be called beautiful. The old lutes, cithers, viols, dulcimers, &c. are not only elegant in ſhape, but are alſo often taſtefully ornamented with carvings, deſigns in marquetry, and painting.

It is, however, unneceſſary to enlarge upon theſe queſtions, ſince the preſent collection affords ſufficient evidence for the inquirer to judge how far the above ſtatements are well founded.

The player on the *viola da gamba*, at the time of the Commonwealth, ſhown in the engraving, Fig. 103, is a reduced copy of an illuſtration in 'The Diviſion Violiſt, or an Introduction to the Playing upon a Ground, by Chriſtopher Simpſon,' London, 1659. It ſhows exactly how the frets were regulated, and how the bow was held. The moſt popular inſtruments played with a bow, at that time, were the *treble-viol*, the *tenor-viol*, and the *baſs-viol*. The laſt two were real Viola da Gambas, being held between the knees like the Violoncello. The *lyra-viol* was played from a notation ſimilar to that uſed for the lute.

It was uſual for viol players to have "a cheſt of viols," a caſe containing four or more viols, of different ſizes. Thus, Thomas Mare, in his directions for the uſe of the viol, 'Muſick's Monument,' London, 1676, remarks, "Your beſt proviſion, and moſt complete, will be a good cheſt of viols, ſix in number, viz., two baſſes, two tenors, and two trebles, all truly and proportionably ſuited." The violiſt, to be properly furniſhed with his requirements, had therefore to ſupply himſelf with a larger ſtock of inſtruments than the violiniſt of the preſent day.

That there was, in the time of Shakeſpeare, a muſical inſtrument called *recorder*, is undoubtedly known to moſt readers from the ſtage direction in Hamlet: *Re-enter players with recorders.* But not many are likely to have ever ſeen a recorder, as it has now become very ſcarce. An illuſtration of this inſtrument is therefore here ſubmitted (Fig. 104). It has been copied from 'The Genteel Companion; Being exact Directions for the Recorder: With a Collection of the beſt and neweſt Tunes and Grounds extant; Carefully compoſed and gathered by Humphry Salter, London, 1683.'

From an old ſtory alluding to the inſtrument, found in old jeſt books, it might be conjectured that there was actually no difference between the recorder and the common *flûte-à-bec*:—"A merrie Recorder of London miſtaking the name of one Pepper, call'd him Piper: whereunto the partie excepting, and ſaying, Sir, you miſtake,

Fig. 103.—Viola da Gamba. Engliſh. XVIIth Century.

my name is Pepper, not Piper; hee anſwered, Why, what difference is there, I pray thee, between Piper in Latin and Pepper in Engliſh? is it not all one? No, Sir, reply'd the other, there is even as much difference betweene them as is between a Pipe and a Recorder."

Neverthelefs, there appears to have been ſome difference, inaſmuch as the *recorder* had at one ſide, near the mouth-piece, a hole which was covered with a thin bladder,—a contrivance adopted for the purpoſe of affecting the quality of ſound.

The *ſhalm*, *ſackbut*, *dulcimer*, *pſaltery*, and other inſtruments popular in England at the time of the Reformation, the names of which were adopted in the Engliſh tranſlation of the Bible for certain Hebrew and

Fig. 104.—Recorder. Engliſh. XVIIth Century.

Greek inſtruments mentioned in the original text, have been already alluded to. No doubt they gradually underwent ſome modifications in the courſe of almoſt every century. The *pipe and tabor*,—the latter a little hand-drum,—were not unfrequently played together by the ſame perſon. The cuſtom is found depicted on ſculptures and paintings of the fourteenth and fifteenth centuries. The Germans uſed for this purpoſe a ſmall pipe, called *ſchwegel*, which had only three finger-holes placed cloſe together at the lower end of the tube. The ſhrillneſs of the ſound of the *ſchwegel* may have been ſomewhat relieved by the rhythmical accompaniment of the little drum. Perhaps this combination ſuggeſts itſelf naturally; at any rate, we find it alſo among the American Indians. In Bolivia, thoſe of the aborigines who have adopted the Roman Catholic faith, are permitted to introduce, on certain religious feſtivals, ſome of their ancient ceremonies. On theſe occaſions they not unfrequently exhibit themſelves adorned with moſt groteſque head-dreſſes, and playing upon rude inſtruments of muſic; and amongſt them may generally be witneſſed a zealous performer on the pipe and tabor.

The *bagpipe* appears to have been from time immemorial a ſpecial favourite inſtrument with the Celtic races; but it was perhaps quite as much admired by the Slavonic nations. In Poland, and in the Ukraine, it uſed to be made of the whole ſkin of the goat, in which the ſhape of the animal, whenever the bagpipe was expanded with air, appeared fully retained, exhibiting even the head with the horns; hence the bagpipe was called *koſa*, which ſignifies a goat.

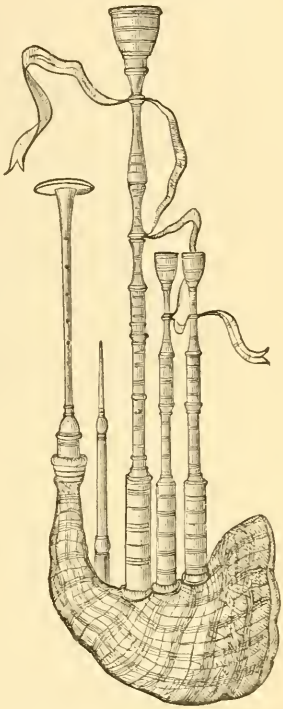


Fig. 105.—Scotch Bagpipe. XVIIIth Century.

Conſidering the high reputation which the bagpipe ſtill enjoys in the North of Britain, it may intereſt the reader to ſee a drawing of the Scotch bagpipe of the eighteenth century (Fig. 105). It is a reduced copy of an illuſtration given in 'Muſical Memoirs of Scotland, by Sir John Graham Dalyell,' Edinburgh, 1849. This is a ſpecimen of the Great Highland Bagpipe, dating from the year 1745. The animating ſound of the bagpipe upon the Scotchman is graphically illuſtrated in ſome old military records, of which the following may ſerve as an example:—"At the battle of Quebec, in the year 1759, while the Britiſh troops were retreating in great diſorder, the General complained to a field officer in Fraſer's regiment of the bad behaviour of his corps. 'Sir,' ſaid the officer with ſome warmth, 'you did very wrong in forbidding the pipers to play this morning: nothing encourages the Highlanders ſo much in the day of battle; and even now they would be of ſome uſe.' 'Let them blow like the devil then,' replied the General, 'if it will bring back the men.' The pipers were then ordered to play a favourite martial air, and the Highlanders, the moment they heard the muſic, returned and formed with alacrity in the rear."

The woodcut, Fig. 106, repreſents an Iriſh bagpipe of the ſixteenth century, in the hands of a player who marches in front of a band of inſurgents. It is copied from an illuſtration given in "The Image of Irelande, with a diſcouerie of Woodkarne, wherein is moſt liuely expreſſed the nature and qualitie of the ſaied wilde Iriſhe Woodkarne, their notable aptneſſe, celeritie and proneſſe to Rebellion, and by way

of argumente is manifeſted their originall, and offspring, their deſcent and Pedigree," &c., by John Derricke, London, 1581.

Fig. 106.—Irish Bagpipe. XVIth Century.

The minſtrel warrior ſupplies the air to the bag from his mouth. As regards the employment of bellows with the bagpipe, Joſeph Walker ('Hiſtorical Memoirs of the Iriſh Bards,' London, 1784, p. 78) remarks, "It was reſerved for the Iriſh to take it from the mouth, and to give it its preſent complicated form, that is, two ſhort drones and a long one, with a chanter, all of which are filled by a pair of ſmall bellows, inflated by a compreſſive motion of the arm." There is, however, no evidence of bellows having been uſed with the bagpipe in Ireland at ſo early a period as is known to have been the caſe in France and Italy. Howbeit, the bagpipe is evidently of high antiquity in Ireland, and is alluded to in Iriſh poetry and proſe ſaid to date from the tenth century. A pig gravely engaged in playing the bagpipe is repreſented in an illuminated Iriſh manuſcript, compiled in the year 1300. Similar figures we find ſculptured in Scotland and England on old

eccleſiaſtical edifices (Melroſe Abbey, Ripon Cathedral, Beverley Minſter, &c.), where they certainly appear an inappropriate decoration.

Some further account of the bagpipe will be found in the ſubſequent pages of the Catalogue.

The *bell* has always been ſo much in popular favour in England that ſome account of it muſt not be omitted in the preſent eſſay. Paul Hentzner, a German, who viſited England in the year 1598, records in his Journal: "The people are vaſtly fond of great noiſes that fill the ear, ſuch as the firing of cannon, drums, and the ringing of bells; ſo that in London it is common for a number of them that have got a glaſs in their heads to go up into ſome belfry, and ring the bells for hours together for the ſake of exerciſe." This may be exaggeration,—not unuſual with travellers. It is, however, a fact that bell-ringing has been a favourite amuſement with Engliſhmen for centuries.

The bell, in its various ſhapes, and in its many aſſociations with popular uſages, offers indeed a wide field for inveſtigation. The Chriſtian church bell was, according to common tradition, invented by Paulinus, biſhop of Nola, in Italy, who lived about A.D. 400. He may poſſibly have introduced it into European countries; but evidence is not wanting in proof of ſimilar bells having been known in Aſia at a much earlier period. In 'Auli Apronii Vermehrte Reiſebeſchreibung,' Franco-Porto, 1724, we read that there was formerly in a tower at Nola an old bell which had the reputation of being the firſt bell made for the Chriſtian church. This intereſting relic, to whoſe ſounds the people aſcribed certain miraculous powers, is deſcribed as having been of a peculiar ſhape, and as having had holes at the top. Conſidering that the larger bells of Aſiatic countries are frequently open at the top, it appears not improbable that Paulinus imported one of theſe, or that he had one made in imitation of a ſpecimen obtained from the Eaſt.

The largeſt bells extant in European countries, and probably in the whole world, are to be found in Ruſſia. Theſe huge inſtruments remain ſtationary when being ſounded, or at leaſt are very rarely ſwung. The celebrated bell in Moſcow, known by the name of *Czar Kolokol*, is the moſt ponderous of all. Its weight is 443,772 pounds; its height 21 feet 4 inches; its diameter, 22 feet 5 inches; and its thickneſs, 23 inches. It was caſt in the year 1653. In the year 1737 it fell to the ground from the ſcaffolding by which it was ſuſpended, whereby it ſuſtained a fracture. The Emperor Nicholas cauſed it to be dug out of the ground into which it had partially ſunk, and raiſed it, in the year 1837, on the pedeſtal of granite on which it now reſts. It ſtands at the foot of the famous Ivan Veliki, or 'Tower of John the Great,'

which is situate in the Kremlin. The Ivan Veliki rises to the height of 209 feet, and is surmounted by a gilded dome. This tower contains several fine-toned bells, the largest of which weighs 127,836 pounds, and is therefore only about one-third the weight of Czar Kolokol, or 'The Monarch.' The great bell at Erfurt weighs 28,224 pounds; that of St. Peter's at Rome, 18,607 pounds; 'Great Tom' in Oxford, 17,000 pounds; the great bell of St. Paul's, London, 11,474 pounds; 'Great Tom' of Lincoln, 9,894 pounds.

The way in which church bells are suspended and fastened, so as to permit of their being made to vibrate in the most effective manner, without damaging by their vibration the building in which they are placed, is in some countries very peculiar. The Italian *campanile*, or tower of bells, is not unfrequently separated from the church itself. The *campanile* at Cremona, which is the highest in Italy, has an elevation of 395 feet. In Spain, a celebrated *campanile*, belonging to the Cathedral at Seville, is 350 feet high, and is three hundred years old. Respecting the English *belfry*, it is noteworthy that, in the opinion of some inquirers, the term has been derived from *bell*, and the Anglo-Saxon, *fridth* (German, *friede*), which means "peace"; —while others trace it to the French *beffroi*, which in old French is *belfroit*, and which during the Middle Ages was a term applied to a certain scaffolding in the shape of a tower placed on wheels. This machine, on the top of which the royal standard was hoisted, served in warfare as a watch-tower, or a station for scrutinizing the enemy. At the foot of the mast on which the standard was displayed, a priest celebrated every morning Holy Mass. The *beffroi* is said to have originally been transmitted into France and other European countries from Italy, where it was called *carroccio*. Bonanni, in his 'Descrizione degl' Istromenti Armonici d' ogni Genere,' gives an illustration of the *carroccio*. It was moved on four wheels. The bell, which was called *martinella*, was placed in the middle, just beneath the standard, and was rung by means of a rope to convey signals; in fact, it served much the same purpose as the trumpet at the present day. Respecting the word *beffroi*, it may be added that some writers believe it to have been derived from *effroi*, "terror," because the bell was used to give the alarm. However this may be, we certainly find in some of the French Musical Dictionaries the term *beffroi* applied to the *tam-tam*, or *gong*, which in modern times is occasionally introduced in the orchestral score for the purpose of producing terrific effects.

In Servia the church bells are often hung in a frame-work of timber built near the west end of the church. The Turks, during their dominion in that country, did not allow the use of bells, and it was

only later, after the prohibition became relaxed, that this erection was added. The Turks, like all adherents to the Iſlam religion, are averſe to the uſe of bells for ſummoning the people to prayer, and employ inſtead the Muëzzin, who aſcends the minaret at ſtated times, and recites the duty of worſhip. The new churches in Servia, which were built after the Turks had ſomewhat loſt their ſway over the country, are generally provided with a belfry over the weſt entrance. The Turkiſh government has, however, recently become more tolerant on this point, and the ſound of the Chriſtian church bell may now be heard in ſome towns of Aſia Minor as well as in European countries under Turkiſh dominion.

In Zante and other iſlands of Greece the belfry is uſually ſeparate from the church. The reaſon aſſigned by the Greeks for having adopted this plan is that in caſe of an earthquake the bells are likely to fall, and, were they placed in a tower, would deſtroy the roof of the church, and might cauſe the deſtruction of the whole building. Alſo in Ruſſia a ſpecial edifice for the bells is generally ſeparate from the church. It is called *kolokolnik*. Moreover, in the Ruſſian villages the bells are not unfrequently hung in the branches of an oak-tree near the church. In Iceland the bell is uſually placed in the lych-gate leading to the grave-yard.

The inſcriptions on church bells are ſometimes ſo quaint, and in ſome countries ſo characteriſtic, that a collection of them would probably be not leſs entertaining than the publiſhed collections of epitaphs from graveſtones.

The *curfew* (or *couvre-feu*) uſed formerly to be tolled in England in obedience to a ſtringent law, ſaid to have been made by William the Conqueror. A ſimilar cuſtom appears, however, to have been obſerved in England as well as on the Continent before the Norman Conqueſt. The booming of the *curfew* intimated to the people that they ſhould cover up their fires, put out their lights, and go to bed. Eight o'clock appears to have been the uſual time fixed by the Government for this manifeſtation of paternal care by means of the *curfew*.

Tempting as it might be to point out ſome curious reſemblances between old uſages of this kind not yet quite extinct in Europe, and thoſe of Aſiatic nations, the ſubject hardly falls within the ſcope of the preſent inquiry.

The Sanctus-bell, uſed by the Roman Catholics in the celebration of the Maſs, has its counterpart in the *ghunta*, a little hand-bell which the Brahminic prieſts in Hinduſtan have uſed from time immemorial in their religious ceremonies.

The Morris (or Morrice) dance, in which the performers wear bells on their garments, was ſome centuries ago a favourite dance in England, and is even at the preſent day occaſionally performed in ſome diſtricts of the country, eſpecially on May-day. This dance is evidently derived from the Arabs. It is the Moriſco, or Mooriſh dance, which from Spain gradually found its way into other European countries, more or leſs modified.

The idea of forming of a number of bells a muſical inſtrument ſuch as the *carillon*, is by ſome inquirers ſurmiſed to have ſuggeſted itſelf firſt to the Engliſh and Dutch; but what we have ſeen in Aſiatic countries ſufficiently refutes this conjecture. Moreover, not only the Romans employed variouſly arranged and attuned bells, but alſo among the Etruſcan antiquities an inſtrument has been diſcovered which is conſtructed of a number of bronze veſſels placed in a row on a metal rod. Likewiſe, numerous bells varying in ſize and tone, have been found in Etruſcan tombs. Among the later contrivances of this kind in European countries deſerve to be noticed the ſets of bells ſuſpended in a wooden frame which occur in repreſentations of muſical performances dating from the Middle Ages. We have already obſerved a noble perſonage of the eleventh century performing on ſuch an inſtrument (See engraving, Fig. 99), and the Britiſh Muſeum poſſeſſes a manuſcript of the fourteenth century in which King David is depicted holding in each hand a hammer with which he ſtrikes upon bells of different dimenſions, which are ſuſpended on a wooden ſtand.

It may be ſuppoſed that the device of playing tunes by means of bells merely ſwung by the hand, is alſo of ancient date. The Lancaſhire bell-ringers deſerve a paſſing notice here, ſince their manner of performing may be conſidered as peculiarly appertaining to Engliſh national muſic. Each of the ringers conſtituting the band manages two bells, holding one in either hand. Thus, an aſſemblage of ſeven ringers inſures fourteen different tones; and as each ringer may change his two notes by ſubſtituting two other bells if required, even compoſitions with various modulations, and of a ſomewhat intricate character, are executable,—provided the ringers are good timeiſts; for, each has, of courſe, to take care to fall in with his note, juſt as a member of the Ruſſian Horn Band contributes his ſingle note whenever it occurs in the muſical compoſition being performed.

Peal-ringing is another paſtime of the kind which may be regarded as pre-eminently national to England. The bells conſtituting a peal are frequently of the number of eight, attuned to the diatonic ſcale. Alſo peals of ten bells, and even of twelve, are occaſionally formed. A peculiar feature of peal-ringing is that the bells, which are provided

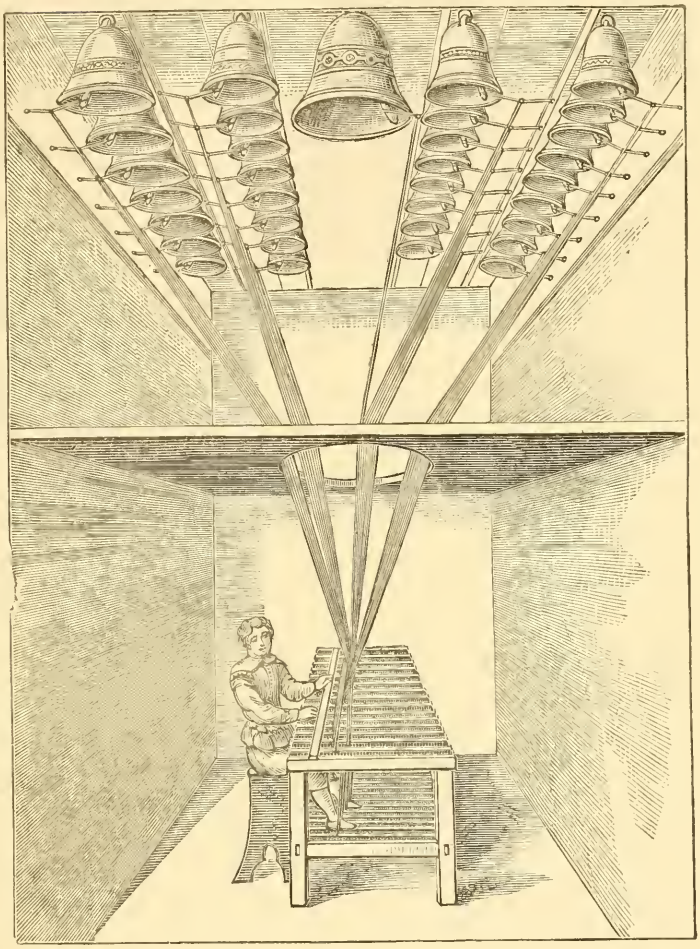


Fig. 107.—Carillon. The Netherlands.

with clappers, are generally ſwung ſo forcibly as to raiſe the mouth completely upwards. The largeſt peal, and one of the fineſt, is at Exeter Cathedral. Another celebrated one is that of St. Margaret's, Leiceſter, which conſiſts of ten bells. Peal-ringing appears to be of an early date in England. Egelric, Abbot of Croyland, who lived at the time of King Edgar, is recorded to have caſt, about the year 960, a ſet of ſix bells; but it is likewiſe recorded that his predeceſſor, Thurketul, had led the way to this fancy. In the year 1456 a fine,

and at that time unusually large peal, consisting of five bells, was sent by Pope Calixt III. to King's College, Cambridge, where it was in use for about three centuries. At the time of Queen Elizabeth the art of ringing was evidently much cultivated.

The *carillon* (Fig. 107) is especially popular in the Netherlands and Belgium, but is also found in Germany, Italy, and some other European countries. It is generally placed in the church tower, but also sometimes in other public edifices. The statement repeated by several writers that the first carillon was invented in the year 1481 in the town of Alost in Belgium, is unreliable, for the town of Bruges in the province of Flanders claims to have possessed similar chimes in the year 1300. There are, however, two kinds of carillons in use on the continent, viz.: clock chimes, which are moved by machinery, like a self-acting barrel-organ; and such as are provided with a set of keys, by means of which the tunes are played by a musician. The carillon in the 'Parochial-Kirche' at Berlin, which is one of the finest in Germany, contains thirty-seven bells. It is provided with a hollow cylinder of wrought iron, which is worked by heavy weights. The bells are struck in the inside with hammers. By means of the cylinder, and the mechanism connected with it, it plays a number of chorales without further assistance; for, the cylinder is perforated with little holes into which are inserted the iron pins required for the production of any particular tunes which it is intended to perform at fixed hours. This carillon is likewise provided with a key-board for the hands, and with a pedal, which together place at the disposal of the performer a compass of rather more than three octaves. The keys of the manual are metal rods somewhat above a foot in length. The performer presses them down with the palms of his hand. The keys of the pedal are of wood; these, especially, require in their treatment a considerable exertion. This carillon was cast in Amsterdam in the year 1714. The performance on such an instrument requires not only great dexterity, but also a considerable physical power. It is astonishing how rapidly passages can be executed upon it by the player, who is generally the organist of the church in which he acts as *carilloneur*. When engaged in the last-named capacity, he usually wears leathern gloves to protect his fingers, as they are otherwise apt to become ill fit for the more delicate treatment of the organ.

Some of the *carillons* in Holland and Belgium are very large; that of the Cathedral at Antwerp contains nearly a hundred bells. Dr. Burney, in his journal entitled 'The Present State of Music in Germany, the Netherlands, &c., London 1775,' has given a rather amusing account of the exertions of the *carilloneurs* which he witnessed at Ghent

and Amſterdam. In the laſt-named city he aſcended the tower of the *Stad-huys*, or town-hall, to obſerve the performer at work; after a quarter of an hour's furious playing, the *carilloneur*, having worked himſelf into a profuſe perſpiration, put on his night-cap and ſaid that he was forced to go to bed the inſtant it was over, to recover himſelf, he being ſo much exhauſted as to be utterly unable to ſpeak.

The want of a contrivance in the *carillon* for ſtopping the vibration, has the effect of making rapid paſſages, if heard near, ſound as a confuſed noiſe; only at ſome diſtance are they tolerable. However, it muſt be remembered that the *carillon* is intended eſpecially to be heard from a diſtance. Succeſſions of tones which, if heard together, form a conſonant chord, and which have ſome duration, are evidently the moſt ſuitable for this inſtrument.

Indeed, every muſical inſtrument poſſeſſes certain characteriſtics which render it eſpecially ſuitable for the production of ſome particular effects. The invention of a new inſtrument of muſic has, therefore, not unfrequently led to the adoption of new effects in compoſitions. Take, for inſtance, the pianoforte, which was invented in the beginning of the eighteenth century, and which has now obtained a popularity greater than any other inſtrument of muſic probably ever obtained. Its characteriſtics inſpired our great compoſers—and among them eſpecially Beethoven in his Sonatas—to the invention of effects, or expreſſions, which cannot be properly rendered on any other inſtrument, however ſuperior in ſome reſpects it may be to the pianoforte. Thus alſo the great improvements in the conſtruction of our braſs inſtruments, which have been made during the preſent century, and the invention of ſeveral new braſs inſtruments, have evidently been not without influence upon the conceptions diſplayed in our modern orcheſtral works.

In concluding this eſſay, a few remarks muſt be ſubmitted to the reader reſpecting the combinations of various inſtruments in muſical performances. Without beſtowing ſome attention upon this ſubject, it is in many inſtances hardly poſſible to form an opinion as to the effects which any particular inſtrument is capable of producing. Many inſtruments,—nay, it may be ſaid by far the greater number, are ſcarcely ever uſed ſingly, but generally in combination with at leaſt one or two others; moreover, they frequently form part of a band, or orcheſtra, of ſome kind. It may eaſily be underſtood that they require to be conſidered eſpecially with reference to their capabilities in their moſt uſual connexion with others. Take, for inſtance, the kettle-drums, theſe are capable only of producing two deep ſounds which by themſelves are muſically all but uſeleſs; yet, what admirable effects have our great compoſers achieved by means of kettle-drums in their orcheſtral works!

Again, it must be borne in mind that generally, if two or more instruments of a different kind are played together in unison, or in octaves, a quality of sound is produced which is very different from any quality of sound peculiar to each of these instruments single. This fact can hardly have escaped the notice of the attentive listener to an orchestral composition, even if he has never occupied himself with the reading of Scores.

Again, many instruments possess distinct qualities of sound in their several octaves. Thus, the clarinet may be said to have three different registers, viz.: the high register, the tones of which are bright and piercing; the medium register, having tones which are full and mellow; and the low register, the tones of which are veiled and sombre. It is not generally the case that the different registers of an instrument are equally valuable, or that one is used as commonly in performances as another. Not unfrequently certain tones are more difficult to produce than others, and are for this reason less commonly put in requisition.

Such facts have to be taken into account in estimating the capabilities of instruments appertaining to foreign nations, which have hitherto been all but unknown to our musicians, as is the case with many of those described in this work.

A survey of the various kinds of orchestras in vogue at the present day in different parts of the world, might be interesting and instructive to musicians. It ought, however, to comprise also the most characteristic musical bands popular among uncivilized and semi-civilized races. A brief allusion to one or two, by way of example, will suffice.

The Buddhists in Tibet have evidently a decided predilection for loud performances in their religious worship. Captain Turner witnessed a sacred concert of this description by a band forming part of a solemn procession. He says "First were ten persons with huge trumpets, which they sounded resting one end upon the ground; next followed twenty men with large tabors, a sort of drum about three feet in diameter, fixed by the side upon a pedestal and beaten by a long elastic curved iron; then came twenty men with cymbals, and two with the sea-shell, here termed *chaunk*. Having entered the most spacious and open street, they began to arrange themselves in order. The trumpets took their station upon the right, next to them the *chaunks*, and then the tabors; the cymbals were in front. The Lama, having a wand in one hand, and in the other a casket or brazier of incense, stood before the whole band, appearing with his wand to mark the time and to give them words, which all, except the instrumental performers, chanted to the music. I observed that the performance of this ceremony continued for nearly half an hour,

when the proceſſion moved on." ('An Account of the Embaſſy to the Court of the Teſhoo Lama in Tibet,' London, 1800.)

Again, very peculiar are the two orcheſtras, one placed at each ſide of the ſcene, which are generally found in a Burmeſe theatre of the better claſs, and of which, like the orcheſtra of the Buddhiſt temple juſt alluded to, we are enabled to form a tolerably exact idea, ſince we poſſeſs ſeveral drawings of the ſingular muſicians faithfully copied from nature by recent travellers.

The Javaneſe have an orcheſtra called *gamâlan*, which conſiſts of a number of curious inſtruments moſtly belonging to the harmonicon claſs.

Among the Hindus we meet with the renowned *nobut*,—a band formed principally of inſtruments eſpecially ſuited for martial muſic. Various other kinds of Hindu orcheſtras could be pointed out, ſome of which are evidently, in so far as regards the number of performers employed, ſcarcely ſurpaſſed by the largeſt of our own uſual combinations of inſtruments. Dr. Campbell witneſſed in Nepal the performance of a Hindu drama, the orcheſtra attendant on which compriſed upwards of fifty muſicians playing a great variety of inſtruments.

In ſhort, almoſt every nation poſſeſſes its own characteriſtic bands, and among many nations are to be found various kinds, each being aſſigned to the occaſions for which it is thought moſt appropriate. Thus, it would be poſſible to arrange a ſeries of illuſtrations of concerts in uſe in different countries at the preſent day, which would exhibit the orcheſtra in its different ſtages of development, from the moſt primitive, being formed entirely of the rudeſt pulſatile inſtruments, to the moſt refined, in which delicately expreſſive ſtringed and wind inſtruments are predominant.

It will eaſily be underſtood that the muſical compoſer might derive eſſential advantage from an examination of theſe various combinations of ſound-producing means. Berlioz, in his treatiſe on Inſtrumentation, evidently entertains the ſame opinion, for in deſcribing a complete orcheſtra, as he maintains it ought to be conſtituted in order to be properly qualified for the production of great Symphonies, and other elaborate compoſitions, he includes ſeveral inſtruments appertaining to Aſiatic nations. Moreover, our claſſical compoſers have occaſionally with great felicity reſorted to the admiſſion of foreign inſtruments into a ſcore for the purpoſe of ſtamping a compoſition more forcibly with certain characteriſtic features. Furthermore, in caſes where ſuch a proceeding appeared impracticable on account of the obſtacles which it might interpoſe in the execution of the muſic, they have not unfrequently ſucceeded in rendering the peculiarities of foreign bands by means of our own uſual inſtruments as happily as the nature of theſe would

permit. Intereſting examples of this kind are the famous dance of the Scythians in Gluck's 'Iphigenia in Tauris,' and the overture of Mozart's 'Die Entführung aus dem Serail.' Opera compoſers might probably derive valuable ſuggeſtions for dramatic effects from an acquaintance with the great variety of extra-European orcheſtras.

Our art of inſtrumentation has in a ſhort time undergone modifications ſo conſiderable that ſeveral inſtruments to which our grandfathers liſtened with rapture, have been expelled from the orcheſtra, and are ſcarcely known to many of our preſent muſicians. Who now-a-day plays the *viola d'amore*, the *viola da gamba*, or certain other inſtruments which Sebaſtian Bach employed in his admirable works? Mozart, not longer than about forty years after Handel had compoſed the Meſſiah, deemed it adviſable to add to the inſtrumentation of this immortal oratorio, becauſe Mozart juſtly concluded that if Handel had ſcored his work forty years later, he would not have failed to turn to account the progreſs made in inſtrumentation. To a ſimilar proceeding ſome of Gluck's wonderful operas have more recently been ſubjected. And although ſome ſincere admirers of thoſe maſters diſapprove of theſe innovations, either from an amiable reverence for the great claſſical compoſers, or perhaps from a leſs juſtifiable ſpirit of conſervatiſm,—the majority of our beſt muſicians are convinced of the deſirableneſs of ſuch reforms, provided the alterations and additions are made by men who are competent to accompliſh the taſk in ſtrict agreement with the ſpirit of the original compoſition which they reviſe.

It is a curious fact that while travellers generally deſcribe the muſical bands of foreign nations as being often unpleaſantly loud, the nations to whom the bands appertain, expreſs very much the ſame opinion reſpecting our inſtrumental performances. Nay, what appears ſtill more remarkable, a reference to the hiſtory of our own muſic ſhows that whenever a compoſer adopted a fuller inſtrumentation than his predeceſſors, he was generally ſure to incur the cenſure of ſincere critics. Even Mozart did not eſcape being accuſed of producing too much noiſe with the orcheſtra. Indeed, we poſſeſs in our muſical literature amuſing evidences of the unwarrantable extent to which in matters of taſte the power of cuſtom is capable of warping the judgment! Scarcely had the muſical taſte become reconciled to the inſtrumentation of Mozart, Beethoven, and Weber, when Spontini horrified the conſervatives by employing in his operas an unprecedented power of braſs inſtruments. At the preſent day the outcry againſt Spontini's and Meyerbeer's loud inſtrumentation has been ſilenced by the monſter orcheſtras of Berlioz, Wagner, and others. Still, it muſt be evident to an unbiaſſed judge that in no other branch of the art of muſic has been

made greater progreſs during the preſent century than in the conſtruction and combination of inſtruments.

A large orcheſtra is not neceſſarily louder than a ſmall one; for the degree of loudneſs produced depends not ſo much upon the number of the inſtruments conſtituting the orcheſtra, as upon the manner in which they are uſed together. A ſimultaneous blending of all the inſtruments is only occaſionally required by the compoſer who knows how to avail himſelf of the variety in quality of ſound which is at his command for the expreſſion of different emotions. Beſides, only a few inſtruments played together may produce greater harſhneſs than when ſome others are added. A loud paſſage in uniſon for ſtringed inſtruments alone is likely to ſound more powerful than would be the caſe with the addition of flutes, or other inſtruments of a mellow quality of ſound. Even the notoriouſly loud braſs inſtruments are capable of, and are actually in a high degree ſuited for expreſſing the moſt tender muſical conceptions. What lover of muſic has not been enchanted by the ſoft notes of Oberon's magic horn, and by the exquiſitely delicate phraſes for trumpets and horns occurring in the Adagio of Weber's overture to Oberon!

It would, however, be erroneous to ſuppoſe that extraordinarily large bands are entirely a modern contrivance of highly civilized nations. There are accounts on record of muſical performances among nations of antiquity, from which it is evident that the noiſe of the inſtruments can ſcarcely have been leſs deafening than any which our monſter bands are capable of producing. The Hebrews, for inſtance, had at the ſolemn dedication of Solomon's temple a large number of performers,—conſiſting of the Levites, who were ſinging as well as playing upon various ſtringed inſtruments and inſtruments of percuſſion; while one hundred and twenty prieſts were blowing trumpets (II. Chron., v. 12, 13, 14). Nor are ſuch combinations of voices and ſtunning inſtruments uncommon with extra-European nations at the preſent day, eſpecially when ſome popular feſtivity invites to public hilarity and exultation. The Negroes in the kingdom of Dahomey, Weſtern Africa, obſerve in the courſe of the year certain preſcribed rites, at ſome of which the muſical bands employed conſiſt of about fifty trumpeters whoſe trumpets are made of elephants' tuſks, and of about the ſame number of drummers. But as theſe bands perform in the open air, they may be leſs an infliction to a refined ear than ſmaller ones which are ſometimes clamorous indoors, not ſo far off as Dahomey.

It has been thought unadviſable, as occaſioning unneceſſary repetitions, to enlarge this eſſay by detailed accounts of our own inſtruments

in uſe at the preſent day, ſince ſome deſcriptive and hiſtorical notices of them are given in the Catalogue, where they are required in examining the exhibited ſpecimens to which they refer. By conſulting the Index the reader may eaſily find any further information reſpecting the pianoforte, harp, violin, flute, oboe, clarinet, and other inſtruments at preſent in popular uſe.

Imperfect though this eſſay may be, it will probably have convinced the reader that a reference to the hiſtory of the muſic of different nations elucidates many facts illuſtrative of our own muſical inſtruments, which to the unprepared obſerver muſt appear miſty and impenetrable. In truth, it is with this ſtudy as with any other ſcientific purſuit. The unaſſiſted eye ſees only faint nebulæ where with the aid of the teleſcope bright ſtars are revealed.

CATALOGUE.

AFRICAN COUNTRIES.

THE principal muſical inſtruments of the modern Egyptians were introduced into Africa by the Arabs. Indeed, moſt of theſe inſtruments are to be found wherever the Mohammedan religion has been eſtabliſhed. Beſides Egypt, the preſent collection contains inſtruments chiefly from Nubia, Sennaar, Kordofan, Eaſtern Soudan, and from the regions of the Bahr-el-Abiad, or White Nile. Several of theſe ſpecimens are in popular uſe among the Negro and Kafir tribes in almoſt every diſtrict of Africa.

1757. '69.

SISTRUM. Bronze frame with four bars looſely inſerted. At the top of the frame a repreſentation of a cat. Modern imitation of ancient *Egyptian.* L. of the inſtrument $7\frac{1}{2}$ in.; L. of the longeſt bar $6\frac{1}{4}$ in.; of the ſhorteſt bar $5\frac{1}{2}$ in.

The name given to the ſiſtrum by the ancient Egyptians was *ſeſheſh.* The inſtrument was uſed in religious performances, and occurs not unfrequently on the Egyptian monuments depicted in the hands of females who were "holy women," or prieſteſſes officiating in the temple. The noiſe produced by ſhaking the ſiſtrum was ſuppoſed to drive away evil ſpirits, or to counteract their noxious influence. A ſimilar inſtrument, called *ſanaſel*, is ſtill at the preſent day uſed for preciſely the ſame purpoſe by the prieſts of a Chriſtian ſect in Abyſſinia.

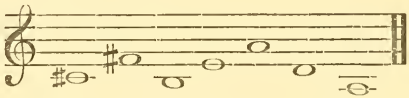
The ſiſtrum may properly be claſſed with the inſtruments of percuſſion, having evidently been uſed for producing a rhythmical accompaniment to ſacred ſongs.

689. '69.

OUD. Wood, inlaid with ſtained woods, mother-of-pearl, and bone; eight tuning pegs. The ſtrings are arranged in four pairs, each pair being tuned in uniſon, and are uſually made of lamb's gut. *Egypt.* Modern. L. 3 ft., W. 1 ft. 0½ in. (Given by His Highneſs the Khedive of Egypt.)

The *Oud*, or with the Arab article prefixed to it, *el' oud*, was brought by the Moors to Spain, where it is ſtill known as the *laud.* From Spain it was introduced into other European countries, and experienced various modifications. The French called it *luth*, the Italians *liuto*, the Germans *laute*, and the Engliſh *lute.* The Oud is generally provided with frets made of cords of gut, which are wound round the neck at fixed diſtances from each other ſo as to enſure the intervals according to the muſical ſcale of the Arabs, which contains ſmaller intervals than our ſemitones.

The Egyptian *Oud* is uſually mounted with fourteen ſtrings, which are tuned in ſeven uniſons, thus :—



The ſtrings are twanged with a plectrum made of the hard portion of an eagle's or vulture's feather, and called *rychet-en-neſer.*

688. '69.

REBAB. Wood, ornamented with perforated braſs, &c.; two ſtrings. *Egypt and Barbary States.* Modern. L. 1 ft. 7 in. (Given by His Highneſs the Khedive of Egypt.)

The *rebab*, an Arab inſtrument of the violin claſs, is eſpecially uſed for accompanying the voice. It was a favourite inſtrument of the Moors in Spain, where it is ſtill occaſionally found amongſt the country people, who call it *rabel*, or *arrabel.* In other European countries it was formerly known as *rebebe*, *reberbe*, *rebeſbe*, *rubebe*, *rebec*, or by ſome ſimilar name; and it underwent ſeveral modifications in its ſhape. The

Engliſh *rebec*, or *rebeck*, had generally three ſtrings. Moreover the Perſians have a three-ſtringed *rebab*. There are at the preſent day

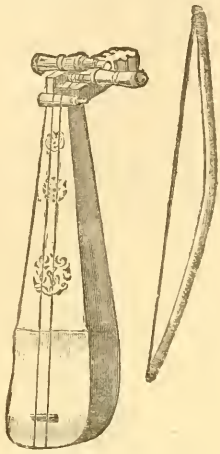


Fig. 108.—Rebab.

ſeveral kinds of this inſtrument in uſe in the Eaſt, materially differing in form and ſize.

692. '69.

ARGHOOL. A kind of double reed pipe, rudely ornamented with a deſign ſcratched upon the ſurface. *Egypt.* Modern. L. 4 ft. 8½ in. (Given by His Highneſs the Khedive of Egypt.)

Each tube contains a little vibrating tongue of cane.

The *arghool* is occaſionally played by the boatmen on the Nile. One of its reeds, which is much longer than the other, ſerves as a drone. The Egyptians have three kinds of *arghool*, which are diſtinguiſhed from each other chiefly by their different ſizes, and by the number of movable pieces of reed conſtituting the tubes.

1561. '71.

WHISTLE. Plaſter, in the ſhape of a rudely-formed animal. Uſed by the children at Cairo. Similar objects are made in Spain. *Egypt.* 1870. L. 3⅞ in., H. 2⅝ in. (Given by G. J. Cheſter, Eſq.)

678. '69.

TABL Shamee. Small kettle-drum. *Egypt.* Modern. H. 6 in., Diam. 1 ft. 2 in. (Given by His Highneſs the Khedive of Egypt.)

The name *tabl ſhamee*, ſignifying 'Syrian drum,' indicates that this kind of drum was probably introduced into Egypt from Weſtern Aſia. It is uſually made of tinned copper, with a parchment face.

The Egyptians uſe the *tabl ſhamee* eſpecially in bridal proceſſions, and on ſimilar feſtive occaſions. The performer carries it ſuſpended from his neck, and beats it with two ſlender ſticks. The *baz*, alſo called *tabl el muſahhir*, is a ſmall drum of this kind uſed by the

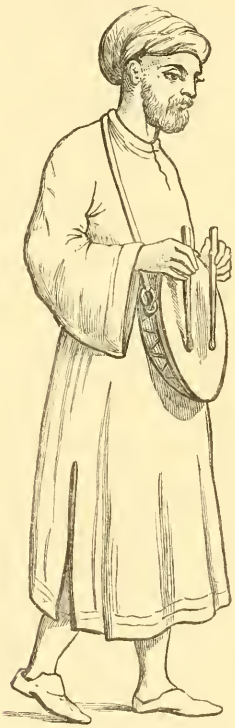


Fig. 109.—Tabl Shamee.

Muſahhir, or crier, who during the nights of Ramadan (the faſt annually obſerved by the Muſlims) recites religious and congratulatory ſentences before the houſes of the wealthier people, for which he receives gratuities. The *baz* is alſo uſed by the Derviſhes in their

religious dances, called 'Zikrs.' The drummer holds it in the left hand by a little projection in the centre of the back, and beats it with a ſhort leathern ſtrap, or with a ſtick.

677. '69.

NAKRAZAN. Kettle-drums. *Egypt.* Modern. H. 6 in., Diam. 9 in. (Given by His Highneſs the Khedive of Egypt.)

The Egyptians have ſeveral kinds of kettle-drums. The *nakkârah* (in plural, *nakâkeer*), is generally uſed in pairs, eſpecially at religious proceſſions in pilgrimages, and on ſimilar occaſions. A pair of theſe large drums are attached to the fore part of the ſaddle of a camel, upon which the drummer rides. They are made of copper; and that which is placed on the right ſide of the performer is ſomewhat larger than the other. They are beaten with drum-ſticks, called *kadâbbah.* The *nakrazan* are of middle ſize. The ſound of the Egyptian kettle-drums, although their pitch is to ſome degree determinable, much partakes of the character of ſound of a common drum.

676. '69.

PAIR of Drums and Stick. The drums made of ſkins ſtretched over earthen veſſels, which are pointed at the bottom, and ornamented with rude deſigns in green. Modern. Larger drum, L. 11 in., Diam. $6\frac{3}{4}$ in. Smaller drum, L. $8\frac{1}{2}$ in., Diam. $4\frac{1}{8}$ in. (Given by His Highneſs the Khedive of Egypt.)

There are to be found in Egypt, and other diſtricts of North-eaſtern Africa, drums of various forms made of earthenware, and provided with an elongation by which they are held.

670. '69.

TABL. Drum, formed of ſkin ſtretched over a veſſel made of clay. Modern. H. 6 in., Diam. $11\frac{3}{8}$ in. (Given by His Highneſs the Khedive of Egypt.)

Rudely-conſtructed drums of this ſhape are common in different diſtricts of North-eaſtern Africa. The name *tabl* is applied by the Arab-Egyptians to the drum in general; the common Egyptian drum is called *tabl beledee*.

671. '69.

TABL. Drum, made of earthenware and ſkin. Modern. H. $4\frac{1}{2}$ in., Diam. $7\frac{3}{8}$ in. (Given by His Highneſs the Khedive of Egypt.)

672. '69.

TABL. Drum, with three holes in its circumference; inlaid with ſhell. Modern. H. $8\frac{1}{4}$ in., Diam. $10\frac{1}{2}$ in. (Given by His Highneſs the Khedive of Egypt.)

The native tribes of Eaſtern Africa inhabiting diſtricts ſouth of Egypt have various kinds of drums, made of baked clay, which are uſed by the Negroes as well as by the Arab deſcendants.

673. '69.

DARABOUKA. Drum Modern. H. $6\frac{1}{8}$ in., Diam. 7 in. (Given by His Highneſs the Khedive of Egypt.)

The *darabouka*, or *darabukkeh*, is a drum having a projection below, which ſerves as a handle. There are various kinds of the *darabouka*. The preſent ſpecimen is called in Abyſſinia and the neighbouring diſtricts, *kobero*.

675. '69.

BAZ. In ſhape like the kettledrum (*tabl ſhamee*) depicted on page 144, but made of wood. *Egypt*. Modern. H. $4\frac{1}{2}$ in., Diam. $8\frac{3}{4}$ in. (Given by His Highneſs the Khedive of Egypt.)

663. '69.

TABL. Drum formed of a ſkin rudely ſtretched over a hollowed block of wood. Modern. L. 1 ft. $7\frac{1}{4}$ in., Diam. 1 ft. $0\frac{3}{4}$ in. (Given by His Highneſs the Khedive of Egypt.)

Drums of this deſcription are common in different parts of Eaſtern Africa.

664. '69.

TABL. Drum. Modern. L. 1 ft. $7\frac{1}{2}$ in., Diam. 10 in. (Given by His Highneſs the Khedive of Egypt.)

665. '69.

TABL. Drum. Modern. L. 1 ft. 7 in., Diam. $9\frac{1}{2}$ in. (Given by His Highneſs the Khedive of Egypt.)

691. '69.

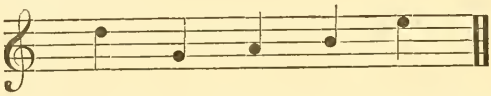
RIKK. Small tambourine, rudely conſtructed of wood and ſkin; ten pairs of braſs plates. Modern. Diam. 8 in., H. $2\frac{3}{4}$ in. (Given by His Highneſs the Khedive of Egypt.)

The ſmall tambourine of the Egyptians is generally covered with the ſkin of the "Bayard," a fiſh of the genus Silurus, which is alſo uſed in the *darabouka*. The common tambourine of the Egyptians, called *tár*, is generally about twelve inches in diameter, and its frame is uſually inlaid with mother-of-pearl, tortoiſe-ſhell, and ivory, or white bone. It has ten pairs of braſs plates, circular in ſhape, looſely attached to the frame by means of wires, of which each pair has one paſſing through the centre. The parchment is of goat's ſkin. Different ſounds are produced by the performer ſtriking the parchment with his fingers in the middle or towards the edge. Similar tambourines are known in the diſtricts ſouth of Egypt, and in Soudan.

666. '69.

KISSAR. Round body of wood and fkin; five ftrings. Modern. L. 1 ft. $9\frac{1}{2}$ in. (Given by His Highnefs the Khedive of Egypt.)

The *kiffar*, or *kiffara*, is to be found in Nubia, Kordofan, Abyffinia, and fome other diftricts of Eaftern Africa. The Nubian *kiffar* is tuned according to the pentatonic fcale,—*i.e.*, the feries of intervals which is reprefented by the black keys of the pianoforte, or by the diatonic fcale with the omiffion of the intervals of the *fourth* and *feventh*. The tones of the Nubian *kiffar* are—



The ftrings are made of the inteftines of the camel. They are vibrated with the fingers, and by means of a plectrum, made of a piece

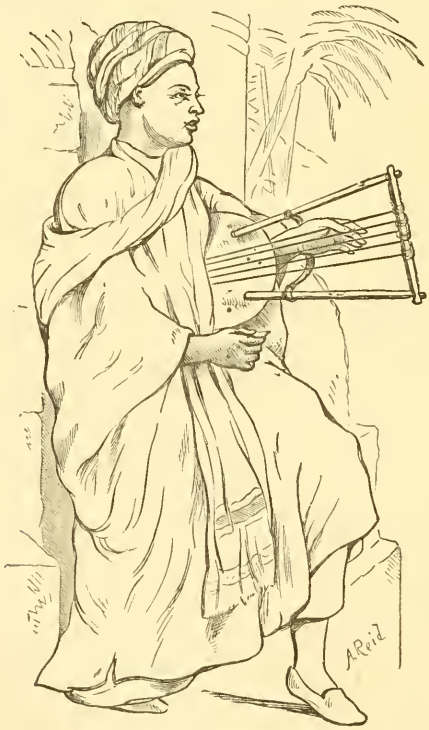


Fig. 110.—Nubian Kissar.

of leather or horn, and faſtened with a cord to the inſtrument. The performer uſes the plectrum and his fingers either alternately, or together. The Abyſſinians have a ten-ſtringed inſtrument of this kind, called *bagana*. The Egyptians called the *kiſſar* "*Gytârah barbaryeh*," which indicates that they conſider it the national inſtrument of the Barabras, or Berbers, who are ſuppoſed to be deſcendants of the original inhabitants of Egypt. The *kiſſar* is certainly one of the moſt ancient ſtringed inſtruments known. It is repreſented on the ancient Egyptian and Aſſyrian monuments, and was probably alſo popular among the Hebrews. The Greeks had various kinds of this inſtrument, more or leſs differing in form and ſize, and diſtinguiſhed by different names, ſuch as *kithara*, *lyra*, *phorminx*, &c.

668. '69.

KISSAR. Round body of wood and ſkin; five ſtrings. Modern. L. 2 ft. 5 in. (Given by His Highneſs the Khedive of Egypt.)

669. '69.

KISSAR. Round body of wood and ſkin; five ſtrings. Modern. L. 2 ft. 6 in. (Given by His Highneſs the Khedive of Egypt.)

667. '69.

KISSAR. The body ſquare-ſhaped; five ſtrings. Modern. L. 1 ft. 8½ in. (Given by His Highneſs the Khedive of Egypt.)

The *kiſſar* with a ſquare-ſhaped body is leſs common than that with a round body.

690. '69.

NANGA. Negro harp, of the Niam-Niams, a tribe in the vicinity of the Bahr-el-Abiad. The body is of hollowed wood covered with ſkin, and the wooden neck termi-

nates in a carved head with two horns. Five ſtrings of gut, tuning pegs of wood, and two ſound-holes in the ſkin covering the body. L. meaſured perpendicularly, 3 ft. 6 in. (Given by His Highneſs the Khedive of Egypt.)

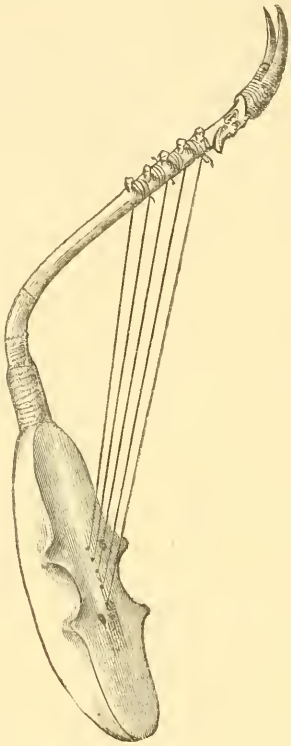


Fig. 111.—Nanga; A Negro Harp.

In ſome diſtricts of Eaſtern Africa this inſtrument is called *rababah.*

The ſtrings are made of the inteſtines of the camel, or of the ſinews of the legs of the giraffe. The latter kind of ſtrings is eſpecially valued by the Arab ſettlers in Eaſtern Africa.

The ancient Egyptians had a ſmall kind of harp which, to judge from the repreſentations, and from the remains of a ſpecimen preſerved among the Egyptian antiquities in the Britiſh Muſeum, was in conſtruction, ſhape, and ſize, identical with the *nanga.* The Egyptian performer carried it, however, in a peculiar and rather inconvenient manner on his ſhoulder; and the negro, ſitting down, holds it in his lap with the neck upwards.

Turning to Weſtern Africa, we there, likewiſe, meet with ſome curious inſtruments of the harp kind. The *ombi*, a rude harp of the Bakalai, one of the numerous negro tribes near the equator, is made of thin pieces of a reſonant wood, covered with leather prepared from the ear of an elephant, or with ſnake, gazelle, or goat ſkin. It has only eight ſtrings, cut from the dried root of ſome tree. The *boulou* of the negroes in Senegambia is conſtructed of ſomewhat larger dimenſions, has ten ſtrings and long tuning pegs of a peculiar ſhape. Mungo Park enumerates, among the popular inſtruments which he ſaw in Senegambia, the *e-korro*, "a large harp with eighteen ſtrings," and the *ſimbing*, "a ſmall harp with ſeven ſtrings." Again, a harp with ſeven ſtrings, called *bána*, is mentioned as an inſtrument of the Vei negroes by the miſſionary S. W. Koelle ('Outlines of a Grammar of the Vei Language, together with a Vei-Engliſh Vocabulary'). The Vei negroes dwell north of Liberia in Guinea. The name *bania*, given in Senegambia to an inſtrument of the guitar kind, may, perhaps, be identical with the Vei *bána*, and alſo with the *banjo*, which appears to be the Senegambian *bania* imported by the negro ſlaves into America.

274. '72.

LOKANGA. Wood; groteſquely carved, painted, and decorated with feathers. The under part of the body coated with reeds (?), held together by lattice-work. Four-ſtringed. *Madagaſcar*. 19th century. L. 3 ft. 1 in., W. 9¾ in. (Bought, 1*l.* 10*s.*)

The Rev. William Ellis ('Madagaſcar Reviſited,' London, 1867), remarks: "I ſaw an aged minſtrel ſitting under a ſunny bank accompanying a Malagaſy ſong with one of the beſt-toned *lokangas* I had heard . . . . . I have often ſeen more than a hundred men dragging a ſingle tree paſt my houſe keeping time with the *lokanga* played on the way before them, while a young chief has every now and then jumped upon the log, and by ſhouts and geſticulations urged them on. The *lokanga* is a kind of native guitar."

682. '69.

NEGRO Trumpet. Made of the horn of an animal. Modern. L. meaſured in a ſtraight line, 1 ft. 5¾ in. (Given by His Highneſs the Khedive of Egypt.)

Trumpets made of the horn of the antelope, gazelle, and of a ſmall ſpecies of buffalo, are common in different parts of Africa. The larger inſtruments of this kind have a far-carrying ſound, and are uſed in the deſert to give the alarm among friendly tribes, in caſe of an attack. Small horns of the antelope, or the gazelle, are carried ſuſpended to a ſtring round the neck, and are blown by the rain-makers to attract or drive away the clouds, at the option of theſe men. Captain Speke met near the ſources of the Nile with a renowned rain-maker who, whenever his attempts to bring down the deſired rain proved unſucceſsful, told the people that the cauſe of the delay was their having given him too few preſents. Thus the ſhrewd wizard continued extorting and trumpeting until the rain ſet in and ſtayed his exactions.

683. '69

NEGRO Trumpet. Made of the horn of an animal. Modern. L. 2 ft. (Given by His Highneſs the Khedive of Egypt.)

684. '69.

NEGRO Trumpet. Made of the horn of an animal; the mouth-hole is at the ſide. Modern. L. 1 ft. 2½ in. (Given by His Highneſs the Khedive of Egypt.)

685. '69.

NEGRO Trumpet. Made of the horn of an animal. Modern. L. 1 ft. 4 in. (Given by His Highneſs the Khedive of Egypt.)

686. '69.

NEGRO Trumpet. Made of the horn of an animal. Modern. L. 1 ft. 4½ in. (Given by His Highneſs the Khedive of Egypt.)

687. '69.

NEGRO Trumpet. Made of the horn of an animal. Modern. L. 2 ft. 8 in. (Given by His Highneſs the Khedive of Egypt.)

A trumpet of this deſcription is called in Bornu, *magum;* in Timbuctoo *teſinſak;* in Upper Guinea, *búro;* in Abyſſinia, *gand*, and *ghenta.* A common name for a trumpet in Abyſſinia, and neighbouring diſtricts, is *malakat.*

679. '69.

NEGRO Trumpet. Ivory. Modern. L. 1 ft. 7½ in. (Given by His Highneſs the Khedive of Egypt.)

Fig. 112.—Negro Ivory Trumpet.

This is a popular inſtrument in Senegambia and Guinea as well as in Central and Eaſtern Africa. The tuſk of the elephant is carefully hollowed, and a mouth-hole is cut in the inner ſide towards the narrow end. Some of theſe trumpets are of enormous ſize, and of great power of ſound. The negroes in Upper Guinea not unfrequently colour the ivory with a matter ſaid to be a preparation of the blood of fowls, or ſheep. Alſo other modes of embelliſhing this trumpet are reſorted to, ſuch as carving, affixing bones of ſlain enemies, &c. The ivory trumpet is known by different names. In Angola it is called *ponga*, or *apunga;* in Congo, *embuchi;* and by the Ibos, a negro tribe in Upper Guinea, *oukpwé*. In Aſhantee, and ſome other diſtricts of North-weſtern Africa, every chief has his trumpeter, who announces the approach of his lord by a ſpecial ſignal, which has a meaning well-known to the people. For inſtance, the ſignal of one chief means "I am a great king's ſon;" that of another, "No one dares trouble me," and ſo on. When Bowdich viſited Aſhantee, the flouriſh blown by the king's trumpeters was interpreted to him as proclaiming the ſentence "I paſs all kings in the world."

680. '69.

NEGRO Trumpet. Ivory. From the regions of the White Nile. Modern. L. (meaſured from end to end) 5 ft. 0¾ in. (Given by His Highneſs the Khedive of Egypt.)

The large ivory trumpet is uſed by the Niam-Niams, and other negro tribes, for tranſmitting ſignals in time of war.

681. '69.

NEGRO Trumpet. Made of the tuſk of an animal, and covered with ſkin. Modern. L. 1 ft. 11 in. (Given by His Highneſs the Khedive of Egypt.)

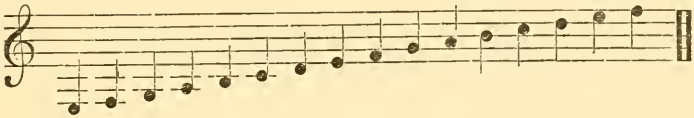
1080. '68.

MARIMBA, or Balafo. *Weſt Coaſt of Africa.* Modern. L. 3 ft. 2 in. Greateſt W. 1 ft. 6½ in. Smalleſt W. 1 ft. 1½ in. Depth 6 in. With it are two ſticks with knobs

of caoutchouc, reſembling drumſticks. L. of the ſticks 1 ft. 0½ in. The performer carries the inſtrument over his ſhoulders by means of a ſtrip of cloth. The gourds ſuſpended under the ſlabs ſerve as a ſound-board. (Given by Lieutenant McEuen, R.N.)

Fig. 113.—Marimba. Africa.

The tones produced by ſtriking the wooden ſlabs are—



Major Laing, in deſcribing the ceremonies of lamentation which he witneſſed the negroes of Kooranko, eaſt of Sierra Leone, obſerving on the death of a chief, and in which the people performed vocal and inſtrumental muſic during a whole night, ſays that at daybreak he was awakened by "the deep tones of a large Balafo, which reſounded through the ſtill morning air in a manner truly ſolemn."

MARIMBA. *South-eaſtern Africa.* Modern. L. 3 ft. 6 in., B. about 1 ft. 8 in. (Given by Captain J. Stuart.) Depoſited in the Educational Department.

The inſtrument has twelve ſlabs of a ſonorous wood, beneath which are faſtened, by means of a dark-coloured cement, twelve gourds, to increaſe the ſound. In each gourd are two holes, one of which is at the top, and the other at the ſide. The latter is covered with a delicate film, to promote the ſonorouſneſs. Several African travellers have noticed this curious acouſtic contrivance. Du Chaillu ſays that the film conſiſts of the ſkin of a ſpider; Livingſtone mentions ſpiders' web being applied to inſtruments of this kind uſed by certain native tribes in Southern Africa. The *marimba* is a favourite inſtrument of the Negroes as well as of the Kafirs.

ASIATIC COUNTRIES.

IN Aſia Minor, and other diſtricts of Weſtern Aſia, we find the Arab inſtruments, which are moſtly derived originally from Perſia. The Hindus poſſeſs ſeveral of theſe, beſides many which they already had before the Arab conqueſts. The Burmeſe and Siameſe have ſome peculiar inſtruments which reſemble thoſe popular among the natives of the Indian Archipelago. The Chineſe and Japaneſe inſtruments bear a remarkable reſemblance to each other, not only in conſtruction, but in ſeveral inſtances alſo in name.

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936. '69.

JUK. A kind of guitar with five ſtrings of thin wire. Wood, inlaid with coloured woods, gold, and ivory moſaics, the ſurface of the body conſiſting of a thin parchment reſembling bladder. *Perſia* (*Shiraz*). Modern. L. 3 ft., W. 8 in. (Bought, Paris Exhibition, 1867, 9*l.* 12*s.*)

This inſtrument is alſo called *qitar*.

939. '73.

KEMANGEH. Three-ſtringed; played with a bow. With deſigns in gold on a green ground. *Perſia.* About 1800. L. 3 ft. ½ in., Diam. 8 in. (Given by Sir F. Gore Ouſeley.)

The Perſian *kemangeh* (or *kamooncheh*) is deſcribed by Sir William Ouſeley ('Travels in various Countries of the Eaſt, more particularly Perſia,' London, 1819) as follows :—" The *kemangeh*, found in almoſt every town, afforded me frequent entertainment. That which I firſt ſaw was in the hands of Mohammed Carabághi, a poor fellow who ſometimes viſited our camp. His *kemangeh*, made at Shiraz, was of *tut* or mulberry-tree wood ; the body, about eight inches in diameter, globular, except at the upper part, over which was ſtretched and fixed by glue a covering of parchment. It had three ſtrings of twiſted ſheep-gut, and a bridge placed obliquely. A ſtraight piece of iron ſtrengthened the whole inſtrument from the knob below through the neck to the hollow which received the three pegs. It was carried hanging from the ſhoulder by a leathern ſtrap. Its length was nearly three feet from the wooden ball at the top to the iron knob or button which reſted on the ground. The bow was a mere ſwitch, about two feet and a half long, to which was faſtened at one end ſome black horſehair ; at the other end this hair was connected, by a braſs ring, with a piece of leather ſeven or eight inches long. The ring was managed with the ſecond and third finger of the performer's right hand, and by its means he contracted or relaxed the bow, which was occaſionally rubbed on a bit of wax or roſin ſtuck above the pegs. The performer generally combines his voice with the tones of this inſtrument . . . . . The *kemangeh* is of various materials. I have ſeen one, of which the body was merely a hollow gourd ; and another, of which every part was richly inlaid and ornamented. 'Some,' ſays Abdalcader [the author of an old Treatiſe on Perſian muſic, written in the year 1418], 'form the body of the *kemangeh* from the ſhell of a cocoa-nut, fixing on it hair-ſtrings ; but many, from wood, over which they faſten ſilken ſtrings.' By another writer, the *tut* or mulberry wood is recommended as beſt adapted to the ſilken ſtrings, from a ſuppoſed ſympathy between that tree and the produce of thoſe inſects which feed on its leaves ; it is, however, in many reſpects the fitteſt, and therefore moſt generally uſed for the body of the *kemangeh*. Sometimes the body is made of the *girdú* or walnut-tree wood."

940. '73.

KEMANGEH. Three-ſtringed. Played with a bow. With deſigns in gold on a green ground. Parchment belly. *Perſia*. About 1800. L. 2 ft. $6\frac{3}{4}$ in., Diam. $7\frac{3}{4}$ in. (Given by Sir F. Gore Ouſeley.)

927. '69.

CHABBABEH. A kind of flageolet, with seven finger-holes above and one below. Black wood, turned. *Persia.* Modern. L. 1 ft. 1¾ in. (Bought, Paris Exhibition, 1867, 12*s.*)

The Persians and Arabs have about ten kinds of flutes, called *nay*, *i.e.*, "a reed," because they were originally made of reed; and they have several instruments of the flageolet species, called *souffârah.*

1606. '72.

VINA. A black wooden bar, with wire strings, supported on movable bridges. Two empty gourds affixed under the bar. *India* (*Bombay*). L. 4 ft. 2 in., H. 1 ft. 5 in. (Bought from the Annual International Exhibition, 1872, 4*l.*)

Most of the bridges are missing, likewise some of the tuning pegs, of which there were originally four for the strings passing over the bridges, and three for the strings passing by the side of the finger-board.

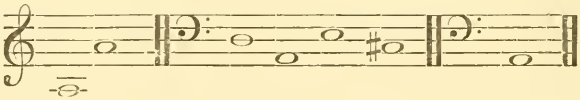
Some account of the *vina* has been given in the preceding essay on the history of musical instruments, p. 56.

There are several specimens of the *vina* popular in different districts of Hindustan, such as the vina of Delhi, the vina of Benares, &c. Some of these bear but little resemblance with the present species, which is supposed to be the oldest, and is certainly the most simple in construction. Although by way of distinction designated as the vina of Bengal, it is popular all over India. Allusion is made to it in the ancient classical literature of the Hindus; there are old delineations of it extant in painting and sculpture; and popular tradition assigns to it a divine origin. It is also called *been*, but the latter name applies more properly to the vina of Benares, which appears to be an offspring of, and an improvement upon the present one.

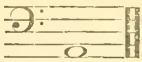
The *vina* is made of various sizes, and is provided with a greater or smaller number of frets or bridges. Most commonly it is about three feet and a half in length, and has nineteen frets made of brass. Two large gourds, measuring above twelve inches in diameter, are appended to the instrument, each about ten inches distant from either end. They

are cut open at the bottom, the hole being round and about five inches in diameter. The finger-board is about two inches wide. The ſtrings, ſeven in number, are of thin wire, and are ſtretched by means of ſeven large tuning pegs ſituated towards the upper end of the inſtrument. Only four of the ſtrings run over the finger-board. Theſe are of braſs wire. The other ſtrings conſiſt of one of braſs wire, which is on the left ſide of the finger-board; and two of ſteel wire, which are on the right ſide of the finger-board. The two laſt mentioned are placed cloſe together, and are tuned in octaves. The ſtrings which run at the ſide of the finger-board cannot be ſhortened by the player, as they are beyond the frets. The ſtrings are tuned in the following intervals:—

On the Right Side. On the Finger-board. On the Left Side.



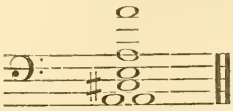
The frets are about an inch high. They are faſtened with wax, and the performer alters their poſition whenever he wiſhes to play in another mode or ſcale than that according to which he finds them regulated. In playing, the *vina* is held obliquely acroſs the breaſt, with one of the gourds over the left ſhoulder and the other under the right arm, as ſhown in the illuſtration fig. 46. The frets are ſtopped with the left hand, and the firſt and ſecond fingers principally are uſed. Of the four ſtrings running over the finger-board, only the firſt and ſecond (counting from the right) are, as a general rule, thus treated; the third and fourth being ſeldom ſounded otherwiſe than as an open ſtring. The performer occaſionally uſes the little finger of his left hand to ſtrike the braſs ſtring—



ſituated at the left ſide of the finger-board. He rarely makes uſe of the third finger of his left hand for ſtopping the frets. However, a ſkilful player can ſhift his hand up and down the finger-board with great dexterity.

The right hand is uſed for twanging the ſtrings. For this purpoſe the firſt and ſecond fingers of the performer's right hand are provided each with a little plectrum, made of wire, or of the large ſcales of a fiſh, and faſtened on with ſprings, or tied down with thread; which is put on the end of the finger like a thimble. The two fingers ſupplied with plectra ſtrike the ſtrings which are on the finger-board; the third finger is not uſed at all; the little finger ſtrikes the two ſtrings on the right ſide of the finger-board.

The order of intervals in which the seven strings of the *vina* are tuned is too peculiar to be left unnoticed. It will be observed that six of the open strings produce together the common chord of A-major—



The Hindus are generally supposed to be devoid of susceptibility for harmony in music. But the performers on the *vina* must often have been impressed with this concord, and they must have appreciated its effect, otherwise they would hardly have adopted it on their favourite instrument.

Although, as far as may be gathered from an examination of the specimens of the *vina* sent to England, it is difficult to endorse the expressions of admiration for the instrument by some writers on Hindu music, it is only proper they should not be entirely ignored here. Captain Augustus Willard ('A Treatise on the Music of Hindoostan,' Calcutta, 1834, p. 85) remarks :—"It is an instrument of the greatest capacity and power, and a really superior *vina* in the hands of an expert performer is perhaps little inferior to a fine-toned pianoforte ; and indeed for Hindoostanee music the best devised, and calculated to be adapted to all practical modifications. Although the *vina* has a finger board and frets, it is not strictly confined in its intonation, as a guitar or pianoforte or an organ is, for it is so delicate an instrument that the slightest difference in the pressure of the finger, or of its distance from the frets, will cause a sensible variation in the tone, of which a good performer avails himself. Hence results that beautiful nicety of just intonation in every mode, which charms the musical ear." Again, Colonel Meadows Taylor ('Proceedings of the Royal Irish Academy,' Dublin, 1864, p. 114) calls the *vina* "an instrument of much power and sweetness," and remarks :—"To hear so as to understand any really classical Hindu music, it should be played upon this instrument ; and I have occasionally met with some very learned and accomplished performers, principally from Mysore and the south of India."

1. '68.

TAMBOURA. The body made of a gourd ; four tuning pegs. *India.* Modern. L. 4 ft. $2\frac{1}{2}$ in., W. 1 ft. $1\frac{1}{2}$ in. (Given by Mr. W. Carpenter.)

The *tamboura* or *tanbour* is to be found in Perſia, Aſiatic Turkey, and Egypt, as well as in Hinduſtan. Its ſtrings are of wire, and are vibrated by means of a plectrum made of tortoiſeſhell, or of a vulture's feather, or ſome other ſuitable ſubſtance. Its neck is very long, and its body is often beautifully ornamented. The Hindu *tamboura* is generally formed of a large gourd, which is lacquered, and has taſteful deſigns in gold and rich colours. It is diſplayed in the rooms of the wealthier claſſes.

The *tamboura* was known to the Aſſyrians and Egyptians about three thouſand years ago. The Egyptians called it *nofre*,—a name which through the language of the Copts has been aſcertained to be identical with *nebel*. The Hebrews had evidently ſeveral ſpecies of *nebel*; for one ſpecies is diſtinguiſhed in the Biblical records by the name of *nebel aſor*, implying a ten-ſtringed inſtrument. However, it would be hazardous to aſſume that the *nebel* muſt have been a tamboura becauſe of the identity of the name *nebel* and *nofre*.

1614. '72.

JANTAR. A rude ſtringed inſtrument, conſiſting of a wooden frame fitted on an empty gourd. Two tuning-pegs. Three frets, rudely cut, near the upper end of the neck. *India* (*Bombay*). L. 1 ft. 11¼ in., H. 8 in. (Bought from the Annual International Exhibition, 1872, 5*s*.)

The *jantar* is identical with the *tzetze* of Zanzibar and the *herrauou* of Madagaſcar, but it has two ſtrings, while the *tzetze* and *herrauou* are one-ſtringed.

1621. '72.

EKULTARA. Bamboo ſhaft fitted into an empty gourd. One-ſtringed. *India* (*Bombay*). L. 3 ft. 6 in., Diam. of gourd, 10½ in. (Bought from the Annual International Exhibition, 1872, 10*s*.)

Uſed by wandering beggars called *waghrees*, who, begging their bread from door to door, invoke bleſſings on the head of the houſe, and accompany their words with a touch of the ſtring.

1620. '72.

TOONTOONEE. Wooden veſſel, bucket-ſhaped, and painted, to which is fitted a tube of wood. One-ſtringed. *India* (*Madras*). H. 2 ft. 4½ in., Diam. of veſſel, 7½ in. (Bought from the Annual International Exhibition, 1872, 10*s*.)

The *toontoonee*, an inſtrument peculiar to the Hindus, is uſed by the mendicants and common ballad ſingers in the Deccan, who accompany their recitations with the ſingle tone which only it is capable of producing. They twang the ſolitary ſtring of thin ſteel wire with which it is ſtrung with the finger or with a plectrum, being a quill, or a piece of bone or ivory. The body of the *toontoonee* is of wood, with the exception of the bottom, which is of prepared ſkin. The top of the body is open. The neck is either a ſtick or a wooden tube, having a tuning-peg at the upper end. The ſtring runs from the tuning-peg through the body, or cylinder, as it may more properly be called, through a hole in the middle of the bottom, under which it is faſtened by means of a ſmall piece of cloth or leather, which prevents its being drawn back through the hole when the tuning-peg is turned for the purpoſe of tightening the ſtring. The Hindu ballad-ſinger or beggar, as the caſe may be, faſtens the *toontoonee* before his breaſt, with the piece of thick and rough cord which is generally affixed to the cylinder, and which at the ſame time ſerves to attach the ſtick conſtituting the neck to the lower portion of the inſtrument. He ſtrikes the ſtring rapidly to obtain as much as poſſible a ſuſtained tone. This tone ſerves as the fundamental note or the Tonic to the tune or recitation of the ſinger. By means of the tuning-peg he can, of courſe, eaſily ſcrew it to any pitch convenient for his vocal effuſions. The *toontoonee* exhibits an acouſtic phenomenon, which although it may be obſerved on ſeveral other muſical inſtruments, appears on this one eſpecially remarkable. On the ſtring being vibrated, and the inſtrument waved in different directions before the hearer, the pitch of ſound is lowered or raiſed according to the more or leſs degree in which the open part of the cylinder is turned towards him, and the vibration of the air in it is conſequently interfered with. It does not, however, appear that the Hindu muſicians make uſe of this peculiarity of the *toontoonee*, and it could hardly be of intereſt in an æſthetic point of view. But the ſonorous and agreeable quality of ſound produced by means of the ſtring vibrating the column of air in the cylinder with its parchment

bottom might ſuggeſt the conſtruction of a ſuperior inſtrument with a number of ſtrings manufactured on the ſame principle as the *toontoonee.*

1627. '72.

KEMANGEH (or Kamancha). The body of wood, ribbed and collared with bone inlaid in black; the belly covered with ſkin. Three catgut ſtrings and ſeven ſympathetic wire ſtrings. *India* (*Kaſhmeer*). L. 3 ft. 5½ in., Diam. 10 in. (Bought from the Annual International Exhibition, 1872, 1*l.* 10*s.*)

The bow belonging to it is miſſing.

1624. '72.

CHIKARAH. Stringed inſtrument played with a bow. Wood; the belly covered with ſkin. Three catgut ſtrings and nine ſympathetic wire ſtrings beneath them. *India* (*Oudh*). L. of inſtrument, 1 ft. 9 in., L. of bow, 1 ft. 8¾ in. (Bought from the Annual International Exhibition, 1872, 1*l.*)

397. '71.

SARINDA. Bengaleſe violin. Wood; the ſurface carved with a deſign, and the upper part terminating in a rudely-formed bird. Three ſtrings. *India.* 18th century. L. 24¾ in., W. 8¾ in. (Bought, 4*l.*)

937. '73.

SARINDA. Bengaleſe violin. *India.* L. 2 ft. 5 in., Diam. 5 in. (Given by Sir F. Gore Ouſeley.)

1609. '72.

ALGOOJA. Flageolet. Brown wood. *India* (*Tanjore*). L. 8½ in. (Bought from the Annual International Exhibition, 1872, 1*s.* 6*d.*)

The Hindus have a variety of wooden pipes constructed like our flageolet, some of which have only four finger-holes placed towards the further end. A small species, the *bansee* or *bansulee*, is considered the favourite instrument of the god Krishna, who is often represented playing it. J. Tod ('Annals and Antiquities of Rajast'han,' London, 1829, vol. i. p. 538) remarks: "As Muralidhara, or 'The Flute-holder,' Kaniya, is the god of music, and in giving him the shepherd's reed instead of the *vina*, or lyre, we may conjecture that the simple bamboo (*bhans*) which formed the first flute (*bhansli*) was in use before the *chatara*, the Grecian kithara, the first invented lyre of Apollo." Krishna is often represented playing upon a flute with a mouth-hole at the side like the German flute. This appears to be an innovation adopted by the artists. The flute of Krishna was blown at the end, probably originally without any plug.

1613. '72.

BANSEE, also called Bansree. Flute. Wood painted with quatrefoil ornament in various colours. *India* (*Bombay*). L. 1 ft. $2\frac{3}{4}$ in. (Bought from the Annual International Exhibition, 1872, 1*s.*)

The *bansee* is used in many of the Hindu ceremonies. Balt. Solvyns ('The Costume of Hindustan,' London, 1804) says that it is played especially at the feast of Nila-Pooja, "when the bigots at that ceremony run sharp pointed iron rods through their tongues, and through the muscular part of their breast, through the back, the arm, the skin of the forehead, &c., and when they are dancing with stretched cords passed through the integuments of the sides in the manner of setons." In Ceylon, wild elephants when captured are tamed by means of the *bansee*. Sir J. Emerson Tennent ('The Wild Elephant,' London, 1867, p. 141) remarks: "The mellow notes of a Kandyan ivory flute, which was played at a distance, had a striking effect upon one or more of them; they turned their heads in the direction from which the music came, expanded their broad ears, and were evidently soothed by the plaintive sounds . . . On looking to the graphic description which is given by Aelian of the exploits which he witnessed as performed by the elephants exhibited at Rome, it is remarkable how very large a share of their training appears to have been ascribed to the employment of music. Phile, in the account which he has given of the elephant's fondness for music, would almost seem to have versified the prose narrative of Aelian."

1625. '72.

POONGI. A fpherical gourd with a horn mouth-piece, and with two tubes of bamboo. *India* (*Madras*). L. 1 ft. 5 in. Diam. of gourd $4\frac{1}{2}$ in. (Bought from the Annual International Exhibition, 1872, 5*s*.)

The *poongi*, alfo called *toomerie*, *magoudi*, and *papanafem-magoudi*, confifts of a hollowed gourd into which two pipes are inferted and tightly faftened by means of wax or fome black refinous fubftance. Infide the gourd are two vibrating *reeds* faftened to the ends of the two pipes. Thefe *reeds* are made by incifions into two fmall tubes, exactly in the fame way in which the vibrating tongues of the Arabian *arghool* are cut. To keep the vibrating tongues flightly raifed, one or two hairs are drawn under them. The performer blows into the fingle tube which is oppofite to the tubes with finger-holes. One of the tubes has generally feven open finger-holes; on the other, which is a drone, moft of the finger-holes are generally ftopped with wax. The holes ferve for altering the pitch of the drone if required. As a rule, the drone is in unifon with the tone emitted by the tube with open finger-holes if all are uncovered. The *poongi* is capable of producing about nine different tones. Simple plaintive airs are played upon it. The inftrument is never ufed in combination with others, except with the drum; in fact, it belongs almoft exclufively to the Sampuris or fnake charmers, and to the profeffional jugglers and acrobats of Hinduftan.

Sir William Oufeley ('Oriental Collections,' London, 1797) calls the *poongi* "Toomerie," and fays that by the latter name it is commonly known in the Deccan, where it is not unfrequently conftructed of a Cuddos nut, inftead of a gourd. It would, however, appear that the name *toomerie* is ufually given to a fpecies of *poongi* which is founded by the breath through one of the noftrils inftead of the mouth. In Hinduftan the ufe of the nofe flute originated in the religious doctrine of the Brahmins that a perfon of fuperior cafte is defiled by touching with his mouth anything which has been touched by the mouth of an inferior. But is it really the cafe that ferpents can be enticed by the found of the *poongi?* The ftatements of feveral obfervers, who may be relied upon, leave hardly any doubt about it. The fact appears all the more inexplicable fince the peculiar quality of the found of the *poongi* is by no means enticing; perhaps the ferpents miftake it for the quacking of ducklings for which they may have a tafte.

Colonel Meadows Taylor ('Proceedings of the Royal Irifh Academy,' vol. ix., Dublin, 1865) fays: "By the fnake charmers a few notes

only are played, which seemed to have the effect of rousing the snakes to be exhibited, usually Cobra di Capellos, to action; and as the reptiles raise themselves on their tails, expand their hoods, and wave themselves to and fro, the player becomes more excited, while the motion of the snakes is accelerated by the rapidity of the music. So also in feats of jugglery or sleight of hand, the *poongi*, accompanied by a small drum, seems to assist the performer, especially when throwing knives or balls into the air, catching them in succession, and throwing them up again. I think there is no doubt that the tones of this instrument have an effect upon all snakes, especially cobras, though this is denied by many. As an instance of this, I may mention that one very large cobra, which frequented my garden at Ellichpoor, and of which everyone was in dread, was caught by some professional snake-charmers in my presence by means of the *poongi*. It was played at first very softly before the aloe bush, underneath which the snake lived in a hole; gradually the performer increased the tone and time of his playing, and as the snake showed its head he retreated gently till it was fairly outside, and erected itself in a defiant manner. At that moment another man stepped dexterously behind, and while the snake's attention was absorbed by the player, threw a heavy blanket upon it, seizing it by the head under the jaws. The head was then pinned down by a forked stick, and the fangs and teeth extracted by strong pincers. The snake was then turned loose, apparently completed cowed and exhausted, and finally transferred to a basket for education as a performer. There was no mistake as to the identity of the reptile, for a portion of its tail had been shot off in an attempt to destroy it. The same men afterwards drew snakes from the thatch of my house, all of which seem to obey the fascination of the *poongi*."

The susceptibility of snakes for musical sounds appears all the more singular considering that they have no ears, at least no external auditory organ. But they have some internal structure serving for the purpose of hearing. Such an ear does not indicate the enjoyment of an acute sense of hearing. Perhaps, if it were otherwise, snakes would not be fascinated by the sound of the *poongi*.

15. '52.

ZOURNA. A kind of oboe. Painted wood, with seven finger-holes above, and one below. The *zourna* has usually a mouthpiece, consisting of a brass tube, on which a reed

is ſtuck. *India.* Modern. L. $10\frac{3}{4}$ in., Diam. 3 in. (Bought, Exhibition of 1851, 5*s.*)

1622. '72.

TOOMERIE Nagaſſaran. Dark wood; braſs mounted. Twelve finger-holes. *India* (*Madras*). L. 1 ft. $8\frac{1}{2}$ in., Diam. of bell, $3\frac{3}{8}$ in. (Bought from the Annual International Exhibition, 1872, 15*s.*)

In no other country are inſtruments of the oboe family ſo numerous as in Hinduſtan. They are diſtinguiſhed from each other by different names, ſuch as *zourna* (or *ſurnā'-e*), *ſhena* (or *ſhanā-i*), *ottu*, *nagaſſaran*, *mukha*, *mukhavinai*, &c. Moſt of theſe varieties, popular in different parts of Hinduſtan, are diſtinguiſhed from each other chiefly by their ſize, and the number of their finger-holes. On the *toomerie nagaſſaran* eight finger-holes are placed in a row, and two on either ſide of them.

1623. '72.

HANUMUNTA Ottu. Hard wooden tube; partly covered with leather; the bell of braſs, ornamented with a ring of carved cobras. *India* (*Madras*). L. 2 ft. $\frac{1}{2}$ in., Diam. of bell $3\frac{1}{2}$ in. (Bought from the Annual International Exhibition, 1872, 1*l.*)

The *hanumunta ottu*, a Hindu oboe, reſembling the *zourna*, has but two finger-holes placed oppoſite to each other near the lower end of the tube. Theſe holes are generally ſtopped with plugs of cotton, ſo that the inſtrument produces only a ſingle tone, which, however, may be altered in pitch by removing the plugs. The Hindus have different kinds of the *ottu*, which are uſed as drones, called *holar cha ſoor*, in combination with other inſtruments of the oboe family. The drone being ſuſtained without intermiſſion has the effect of the drone of a bagpipe. The *ottu* can be tuned to any key which the leading inſtruments require by altering the poſition of the mouthpiece or reed.

1617. '72.

PANCHAMA Ottu. Braſs; gadroons on bell. *India* (*Madras*). L. 2 ft. $1\frac{1}{2}$ in., Diam. of bell $3\frac{7}{8}$ in. (Bought from the Annual International Exhibition, 1872, 12*s.*)

The *panchama ottu* is a small straight trumpet entirely of one piece. Precisely the same instrument, but of a large size, is the *kurna*, popular with the Hindus.

1633. '72.

SINGEE. An instrument of the trumpet kind. Made from a twisted goat's horn. *India* (*Oudh*). L. 8 in. (Given by the Indian Department of the Annual International Exhibition, 1872.)

This instrument is used by Hindu Fakirs, Mahommedan monks and hermits. The *singee* of Nepaul is made entirely of copper, and is composed of four pieces, which when put together give it the shape of a cow's horn. Moreover, a brass horn called *seeng* is universal throughout Hindustan, and is especially used by the lower castes of people. Not only in the towns, but in every village of Central and Southern India it is the function of the watchmen to blow the *seeng* at sunset, and again during the night when they go their stated rounds.

1619. '72.

TARAI. Trumpet. Brass. *India* (*Madras*). L. 9 ft. 3½ in., Diam. of bell 4½ in. (Bought from the Annual International Exhibition, 1872, 2*l.* 2*s.*)

It is an old custom with the pious Hindus to blow upon the *tarai* at the interment or cremation of their dead, and likewise when they offer viands and other oblations to their defunct. The *tarai* is also called *tooree*.

1607. '72.

RAMSINGA, or Komboo. Brass trumpet. Serpentine. *India* (*Madras*). L. 3 ft. 8 in., W. of bell 7½ in. (Bought from the Annual International Exhibition, 1872, 1*l.* 2*s.* 6*d.*)

The shape of the *ramsinga* closely resembles that of the ancient Scandinavian *lure*. In Nepaul this trumpet, or rather horn, is called *nursingh*, and also *kamsa*. It is often made of a large size. Sturdy lungs

are required to produce its full tone; hence it is leſs frequently met with among the inhabitants of the flat countries of Hinduſtan than among the robuſt dwellers in mountainous diſtricts. In Nepaul it is ſometimes embelliſhed with deſigns in a red colour.

1612. '72.

SURYAPRABAI. Tambourine; ſtretched on a circular iron hoop, with curved handle. *India* (*Madras*). Diam. $9\frac{1}{4}$ in. (Bought from the Annual International Exhibition, 1872, 10*s*.)

The common drums of the tambourine kind popular in Hinduſtan are the *dayra*, *duff*, *duffdé*, *do*, *hulkya*, &c. The Hindus in beating theſe inſtruments generally uſe little ſticks as well as the hands. The *dayra* conſiſts of a circular frame, either of wood or of metal, covered with parchment. It is generally about twelve inches in diameter. The performer thruſts the thumb of his left hand into a nooſe which paſſes through a hole in the frame; and having thus a ſupport for his right hand, which he places ſomewhat above the centre of the inſtrument, he preſſes the knuckle of his middle finger on the inſide whenever he wiſhes to produce a higher pitch of ſound. The Hindu *duff* is generally an octagonal frame of wood, about three feet in diameter and ſix inches in depth, covered on one ſide with parchment. It has on the other ſide a net-work of thin ſtrips of leather affixed for the purpoſe of counteracting the ſtreſs of the parchment. It is uſually ſtruck with the fingers of the right hand, and occaſionally with a rather long ſwitch, which the performer holds perpendicularly over the inſtrument between the fore finger and middle finger of his left hand.

1615. '72.

TAL, or Jalar. Two little cymbals of white copper, with connecting cord. *India* (*Bombay*). Diam. $2\frac{1}{4}$ in. (Bought from the Annual International Exhibition, 1872, 5*s*.)

In Hinduſtan we meet with cymbals varying in ſize from that of a tea-cup to the dimenſions of a waſhing baſin. They are made of mixed metals, the chief of which is denominated *Phúlia*, and is compoſed of zinc, copper, and tin, in various proportions according to the

tone intended for the cymbal. The smallest cymbals, called *munjeera*, are in the form of two cups. They are struck together outside, inside, and upon their edges, in order to produce rhythmical sounds in accordance with the vocal or instrumental music which they accompany. Other cymbals common in Hindustan are called *jhanj*. Some of these are rather large, and emit a sound more like that of a gong than like the tinkling and clicking peculiar to the small ones. The Hindus, especially in the northern districts of India, very frequently introduce cymbals into religious ceremonies. At solemn processions in honour of the gods, as well as at marriage celebrations, at feastings, and on like occasions, the *jhanj* are considered by many almost indispensable.

The name *tal* given to the present cymbals alludes probably to their gong-like shape. At any rate, *thalla* is the common name for the gong in Hindustan, which is made of various sizes.

1611. '72.

KURTAR. Castanets; a pair. Hard wood with carved foliage border. With bells. *India* (*Madras*). L. 7 in. (Bought from the Annual International Exhibition, 1872, 2*s.* 6*d.*)

1616. '72.

CHEEPLAYO. Two wooden staves, rudely carved, holding each four brass discs, suspended. *India* (*Bombay*). L. 11 in., Diam. of disc $2\frac{3}{4}$ in. (Bought from the Annual International Exhibition, 1872, 15*s.*)

1626. '72.

CHEEPLAYO. Two. Wooden handles, holding each six brass discs, suspended, and bells. *India* (*Madras*). L. 10 in. (Bought from the Annual International Exhibition, 1872, 7*s.* 6*d.*)

Two are held between the thumb and the fingers of each hand, and clashed together. Hindu devotees use them.

1610. '72.

MURCHANG. Iron. *India* (*Oudh*). L. $5\frac{3}{4}$ in. (Bought from the Annual International Exhibition, 1872, 1*s.* 6*d.*)

The *murchang*, or ſimply called *chang* ("harp") is made of different forms and ſizes. It is nearly identical with the European Jew's harp. The tongue generally projects behind the bow in a ſtrong ſteel ſpike, by which the inſtrument is held firmly to the mouth. In Cutch it is not unfrequently accompanied by a ſmall drum, or by cymbals, to mark the time. The *murchang* is alſo common in Thibet, and in Burmah. The Chineſe *keou-kin* is very ſimilar to the *murchang*. The term *keou* means mouth, and *kin* is the name of a Chineſe ſtringed inſtrument more reſembling the dulcimer than the harp. The deſignation of *keou-kin* therefore, is rather "mouth-dulcimer" than "mouth-harp." The Chineſe regard the *keou-kin* as being of high antiquity; but they thus regard any of their inſtruments the origin of which is unknown to them. Conſidering how widely the Jew's harp is diffuſed over Aſia, it appears not probable that it was originally introduced from Europe. There is hardly any muſical inſtrument extant which Aſiatic nations have adopted from Europe; while, on the other hand, many of our inſtruments are evidently of Aſiatic origin.

The natives of New Guinea conſtruct a ſort of Jew's harp of bamboo, called *darubiri*, and a ſimilar inſtrument has been found among the natives of New Ireland. Furthermore, the natives of the Iſland of Timor, the Macaſſars in Celebes, the Dyaks in Borneo, the Marianne Iſlanders, and the Battahs in Sumatra, poſſeſs contrivances of their own invention, which may be claſſed with the Jew's harp.

The common Crembalum (Engliſh, *Jew's harp*, *Jew's trump;* French, *guimbarde*, *rebute*, *trompe;* Italian, *ſpaſſa-penziero*, *tromba;* German, *maultrommel*, *brummeiſen;* Dutch, *mondtrommel;* Daniſh, *mundharpe;* Swediſh, *mungiga;* Poliſh, *dremla*), although generally a mere plaything for children, is capable of producing charming effects, and there have been ſeveral accompliſhed performers on it, whoſe execution elicited the admiration of muſicians of refined taſte. Its Engliſh name is perhaps a corruption of jaw's-harp, becauſe it is held between the teeth when played upon. The inſtrument is, however, in Germany alſo known by the deſignation of *Judenharfe.* As it was called in England in olden time "Jew's trump," and as it was evidently regarded as a mere toy, the term *Jew* may be a corruption of the French *jeu*, a *jeu-trompe* implying a toy-trumpet.

Howbeit, the astonishing performances by Koch, Eulenstein, Scheibler, and others, have done much to raise the instrument in the estimation of lovers of music. Koch's proficiency on the instrument became first known when he was a common soldier in Magdeburg, about the year 1785. One of his most admired performances consisted of a kind of descriptive music, depicting a funeral procession with the tolling of bells, into which he introduced a popular old German dirge, so that it was heard first as sounding from a long distance, and then as if a chorus of mourners gradually approached and passed by. Another remarkable performer, Eulenstein, a native of Wirtemberg, came in the beginning of the present century to London, where he played in public concerts.

With the fundamental tone any of the tones can be made distinctly audible on the Jew's harp which are producible on the simple tube of a trumpet, or the harmonics softly sounding with the fundamental tone of a vibrating string. This is achieved by modifying the cavity of the mouth, and consequently the air which it encloses. Thus the intervals constituting the major chord are easily obtainable; likewise the interval of the minor seventh, which is, however, somewhat too flat. Owing to the absence of the minor third of the fundamental tone, compositions in a minor key are not so well suited for the instrument as those in a major key. To remedy this imperfection, and also to obtain the tones required for modulations into various other keys, accomplished performers have resorted to the expedient of using two or more Jew's harps in combination, each having a fundamental tone of its own, and consequently different harmonics. Such a combination is called *aura*. Scheibler of Crefeld in Germany, in the beginning of the present century, affixed as many as twenty Jew's harps of different pitch on a disc, with their round ends towards the centre, so that the tongues diverged like rays. His skilful performance on the *aura* is said to have produced a magic effect upon a large audience in a concert room.

395. '71.

MEGYOUNG. Wood; in the form of an alligator, with carved head, feet, and conventional ornament. Three strings. The tuning pegs are not the original ones. *Burmah.* 18th century. L. 4 ft. 3½ in., W. 6 in. Bought, 8*l.*

The *megyoung* or *megoum*, a favourite ſtringed inſtrument of the Burmeſe, is alſo found in Siam, where it is called *tuk-kay*, meaning "The Lizard."

1618. '72.

MEGYOUNG. Wood; in the form of an alligator. Coloured red, and gilt, with glaſs eyes. Three ſtrings. *Britiſh Burmah.* L. 4 ft., H. 6¼ in. (Bought from the Annual International Exhibition, 1872, 2*l.* 10*s.*)

The *megyoung* is uſually conſtructed as follows:—Its long body is a hollow cylinder. It has a ſound-hole conſiſting of a long inciſion in the bottom of the body running lengthwiſe. Its three ſilken ſtrings reſt on two bridges, one being placed near the head, and the other near the tail. The ſtrings run over ten frets made of a hard wood and affixed to the back of the alligator at regular diſtances. The three tuning-pegs are ſituated at the tail, and meaſure about eight inches in length.

The performer places the *megyoung* before him on the ground, and vibrates the ſtrings with his fingers. The inſtrument is uſed in the Burmeſe full orcheſtra, which generally accompanies dramatic repreſentations and ſimilar entertainments. Some Burmeſe muſicians, it is ſaid, perform upon the *megyoung* with ſurpriſing dexterity, eſpecially when extemporizing preludes and interludes to their ſongs.

1608. '72.

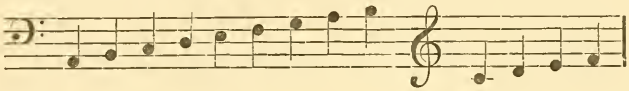
SOUNG. Boat-ſhaped harp, on coloured wooden ſtand, carved as a negro boy. Thirteen ſtrings. *Britiſh Burmah.* L. 3 ft., H. with ſtand 3 ft. 2 in. (Bought from the Annual International Exhibition, 4*l.* 6*s.*)

The moſt noteworthy harp in uſe in Aſiatic countries is the *ſoung*, alſo called *ſaun*, *tſoung-gouk*, and *thembogyoung*. It is made of various ſizes, generally meaſuring from two to five feet in length. The body is of a light wood hollowed and varniſhed, generally black with deſigns in gilding. Its ſhape ſomewhat reſembles a canoe with a deck. Its ſound-board is generally formed of buffalo leather. At the extremity of the body a neck, made of a hard wood, is neatly faſtened. The neck

tapers towards the end, and rising, curves over the body. The body has generally two sound-holes, one on each side of the strings.

The *soung* is usually mounted with thirteen strings of silk. Sometimes wire is used instead of silk; but this is an innovation. The silken strings are neatly twisted, and rubbed with a resinous substance. Tasseled cords, attached to the ends of the strings and wound round the curved neck, are of assistance in tuning the *soung*, which is done by pushing the strings upwards or downwards, so that the curvature of the neck increases or diminishes the tension.

The strings are tuned in the following order of intervals :—



The *soung*, when played upon, is held across the lap, the curved neck being to the left; the performer passes his right hand round it, and over the strings. Its sound is described as pleasant, even by European auditors in Burmah. The *soung* is, however, more frequently used in accompanying vocal music than in solo performances. The performer occasionally produces a semitone by applying a finger of the left hand to a string near the end, which has the effect of shortening it. He, however, generally twangs the strings with both hands.

1629. '72.

PAT-MA. Large drum. Wood, bound lengthwise with strips of skin. *British Burmah.* L. 2 ft. ½ in., Diam. 1 ft. 11 in. (Bought from the Annual International Exhibition, 1872, 1*l.* 10*s.*)

This drum, as also the other musical instruments from British Burmah here mentioned, were manufactured at Pazoongdoung, the Burmese quarter of the town of Rangoon.

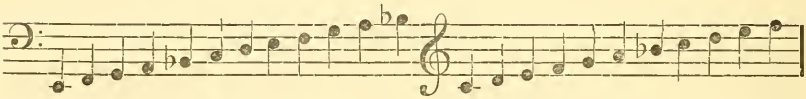
1628. '72.

BONDOUNG. Long drum. Wood, bound lengthwise with strips of skin. *British Burmah.* L. 3 ft., Diam. 8 in. (Bought from the Annual International Exhibition, 1872, 18*s.*)

1630. '72.

PATTALA, or Patolah. Wooden harmonicon. The caſe painted black and red, and gilt; carved in low relief with dragons, birds, and tracery. *Britiſh Burmah.* H. 1 ft. 9 in., L. 2 ft. 8 in. (Bought from the Annual International Exhibition, 1872, 5*l.* 5*s.*)

The *pattala* contains ſonorous ſlips of wood or bamboo, ſixteen or eighteen in number, of graduated lengths, the largeſt of which is from twelve to fifteen inches long, and two inches broad. They are ſtrung on a double cord, and are ſuſpended over an open ſounding-box reſembling a trough, or a boat. The roundiſh outſide of the bamboos is uppermoſt. They retain their original thickneſs at their ends, but are thinned and ſcooped out towards the middle; and it is by this method of thinning and hollowing them that the required pitch of tone for each is obtained. The *pattala* is played with one or two little ſticks, about eighteen inches in length, and terminating in a rather thick ball made of cloth. A *pattala* containing twenty-three tones meaſures about four feet and a half in length, and produces the following diatonic ſucceſſion of intervals:—



The ſound is mellow and pleaſing. Captain Henry Yule ('A Narrative of the Miſſion ſent by the Governor-General of India to the Court of Ava,' London, 1858), remarks: "Though its materials are of no value, a good old *pattala* is prized by the owner like a good old Cremona, and he can rarely be induced to part with it."

1632. '72.

PAT-TSHAING. Hoop of wood, carved with bands of pomegranate and foliage ornament, and leaf borders coloured red; containing twenty-one drums of graduated ſizes. Fringe of coloured cloth vandykes. *Britiſh Burmah.* Diam.

4 ft. 9 in., H. 2 ft. 7 in. (Bought from the Annual International Exhibition, 1872, 15*l.* 10*s.*)

The *pat-tshaing* generally contains sixteen, eighteen, or twenty-one drums, which are suspended vertically around the interior of the frame; so that the smallest, which is about two and a half inches in diameter, is placed at the right side of the entrance, and the largest, which is about ten inches in diameter, at the left. The entrance consists of a small opening in the frame, which can be closed. The drums have fixed tones. Their pitch is regulated by means of a little moist clay, which is applied to the centre of the parchment with the sweep of the thumb. The performer, squatted in the centre, beats the drum with his fingers and palms, and occasionally uses also a little drum-stick. The names, *tshain*, *tseing*, *tsine*, *sein*, and *shing*, by which the instrument is designated, are evidently mere abbreviations of *pat-tshaing*, written or pronounced in different ways.

The *pat-tshaing* is often employed in the orchestra accompanying a Burmese dramatic performance. It is also used in processions, being carried by two men, whilst the performer shuffles along in the inside, playing as he goes. He is said to evince, not unfrequently, much skill and dexterity.

1631. '72.

KYEE-WAIN. Two concentric circles of wood, between which are suspended fifteen metal plates resembling cymbals, graduated in size and tone. The outer circle is carved in openwork with pomegranate ornament in black wood. *British Burmah.* Diam. 4 ft. 3 in., H. 1 ft. 1½ in. (Bought from the Annual International Exhibition, 1872, 10*l.*)

The *kyee-wain* is one of the principal instruments employed in a Burmese full orchestra. The performer seated within the frame strikes the plates with two small sticks, about six inches long and an inch in diameter, which are covered at the end with leather or cloth. In a Burmese theatre of any pretension to respectability, there are generally, besides wind instruments and castanets, two *kyee-wains*, one of which is placed on each side of the scene. Moreover, there are some varieties of this instrument in Burmah. One or other kind of *kyee-wain* is a popular instrument in almost every district of Further-India.

6 and 6*a*. '70.

UR-HEEN and Bow. A ſpecies of fiddle. Wood, with two ſtrings. The body covered at the top with the ſkin of the *tan*, a ſnake of the Boa family. The bow is of cane and horſehair. *China.* Modern. L. 2 ft. $2\frac{1}{4}$ in., Diam. of body 3 in., L. of bow $24\frac{5}{8}$ in. (Given by the Directors of the Alexandra Palace Company.)

7 and 7*a*. '70.

UR-HEEN and Bow. A ſpecies of fiddle. Wood, with two ſilken ſtrings. The bow of cane and horſehair. *China.* Modern. L. $23\frac{1}{4}$ in., Diam. of body $3\frac{5}{8}$ in., L. of bow $24\frac{1}{4}$ in. (Given by the Directors of the Alexandra Palace Company.)

The ſtrings are tuned in the interval of a fifth from each other. Tradeſcant Lay ('The Chineſe as They Are,' London, 1841) remarks: "The hairs of the bow paſs between the ſtrings, which, as the ſtrings are very near to each other, conſtitutes the chief difficulty in playing. It requires long practice to enable the learner to preſs the bow fairly upon one without touching the other, and thus mingling the tone deſired with ſome extraneous noiſe of the moſt grating deſcription. Out of this wretched thing performers contrive ſometimes to draw ſounds of great brilliancy, ſo that I have heartily wiſhed them a better tool for their pains. Such is the reſult of much practice."

5 and 5*a*. '70.

YE-YIN and Bow. A ſpecies of fiddle. The body, apparently formed of a ſegment of the ſhell of ſome fruit, is open at the back. Two ſtrings. The bow of cane and horſehair. *China.* Modern. L. 3 ft. 4 in., Diam. of the body $4\frac{1}{2}$ in., L. of bow 2 ft. 2 in. (Given by the Directors of the Alexandra Palace Company.)

936. '73.

YE-YIN. A ſpecies of fiddle. *China.* Modern. L. 2 ft. 5 in., Diam. 5 in. (Given by Sir F. Gore Ouſeley.)

1. '70.

YUE-KIN or "Moon Guitar." Wood, with four ſilken ſtrings, arranged in two pairs, each pair tuned in uniſon. *China.* Modern. L. 24½ in., Diam. 14 in. (Given by the Directors of the Alexandra Palace Company.)

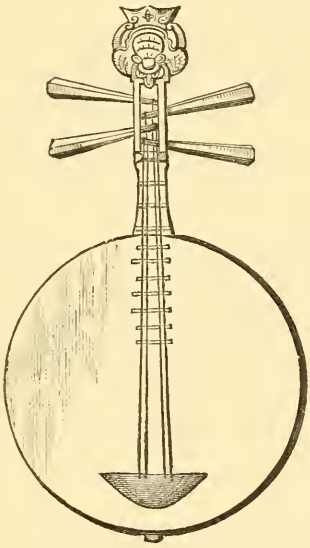
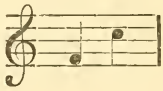


Fig. 114.—Yue-kin. China.

933. '73.

YUE-KIN. *China.* Modern. L. 2 ft. 4¼ in., Diam. 14½ in. (Given by Sir F. Gore Ouſeley.)

The *yue-kin* is tuned in the interval of a fifth, thus :—



Tradeſcant Lay ('The Chineſe as They Are, London, 1841) relates : " As the ſtrings are ſhort, the ſound is ſmart and keen, and muſt be drawn out by forcibly ſtriking the ſtring with the nail or with a plectrum of wood or metal. I once ſaw a muſician at one of the ſtrolling theatres, who diſplayed a great deal of execution upon the *yue-kin*, with a very pleaſing effect. On another occaſion it was uſed as an accompaniment to the *ur-heen*, and as the muſician underſtood his buſineſs, the reſult had ſomething particularly exhilarating about it."

2. '70.

PEPA. Wood, with ſmall plaques of inciſed ivory, and four ſilken ſtrings. Principally uſed by Chineſe ladies. *China.* Modern. L. 3 ft. $3\frac{3}{4}$ in., greateſt W. $12\frac{1}{4}$ in. (Given by the Directors of the Alexandra Palace Company.)

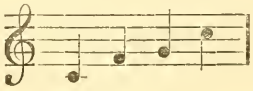
393. '71.

PEPA. Wood, the top of the neck carved with a bat. Fluted tuning pegs. In the interior is a pendulum or ſounding ſpring. The finger-board is wanting. *China.* Modern. L. 2 ft. $11\frac{1}{2}$ in., W. $9\frac{3}{8}$ in. (Bought, 3*l.*)

934. '73.

PEPA. *China.* Modern. L. 3 ft., W. $9\frac{1}{2}$ in. (Given by Sir F. Gore Ouſeley.)

The *pepa* is tuned in the intervals of a fourth, a whole tone, and a fourth, ſo that the outer ſtrings are octaves to each other, thus :—



4. '70.

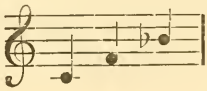
SAN-HEEN. Wood, three silken strings. The body covered on both sides with the skin of a snake. *China.* Modern. L. 3 ft. 2 in., greatest W. of body 6 in. (Given by the Directors of the Alexandra Palace Company.)

Fig. 115.—SAN-HEEN. China.

935. '73.

SAN-HEEN. *China.* Modern. L. 2 ft. 11 in., W. $5\frac{1}{2}$ in. (Given by Sir F. Gore Ouseley.)

The *san-heen* is tuned in two fourths, thus :—



10. '70.

YANG-KIN. A dulcimer. Lacquered wood, with carved jade plaques over the ſound holes. The thin braſs wires are ſtruck with two ſmall wooden hammers of peculiar ſhape. In a drawer is a ſmall braſs tuning hammer. *China.* Modern. L. 2 ft. 4 in., W. 10 in. (Given by the Directors of the Alexandra Palace Company.)

As the *yang-kin* is not mentioned in the older Chineſe treatiſes on muſical inſtruments, it is probably of comparatively modern origin,—perhaps a modification of the *ſantir*, which is known in Hinduſtan, as well as in Weſtern Aſia.

9. '70.

TCHE. Wood, mounted with bone. Sixteen thin braſs wires. The movable bridges belonging to the inſtrument are wanting. *China.* Modern. L. 3 ft. 2½ in., W. 8½ in. (Given by the Directors of the Alexandra Palace Company.)

3. '70.

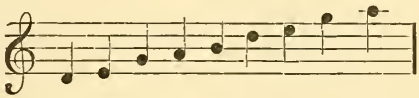
KIN or "Scholar's Lute." Wood, lacquered, and inlaid with mother-of-pearl. Seven ſtrings of ſilk. *China.* Modern. L. 4 ft. 0½ in., W. 7½ in. (Given by the Directors of the Alexandra Palace Company.)

13. '70.

TY. A flute. Bamboo, with ivory tips. Ten finger-holes on the upper part and two oppoſite placed near together towards the lower end. *China.* Modern. L.

2 ft. 2½ in. (Given by the Directors of the Alexandra Palace Company.)

The general name for the flute is in Chinese *siao* or *seaou*. The *ty* is blown like the *flûte traversière* or German flute. It is generally provided with ten finger-holes and two mouth-holes. One of the mouth-holes is situated nearer to the centre of the tube than the other, and is covered with a film when not used. By means of this second mouth-hole a higher pitch is obtainable. Two of the finger-holes are also often covered with a film, so that only the pentatonic intervals are producible. When all the finger-holes are open, the order of intervals is diatonic. There is a large *ty* and a small one in popular use. The order of intervals generally adopted on the large *ty* is the following, which may be transposed to a higher pitch by using the second mouth-hole :—



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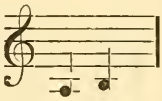


are, however, also obtainable by means of two finger-holes which are placed opposite to each other at the further end. Tradescant Lay ('The Chinese as They Are,' London, 1841, p. 197) says :—"The flute is used only for solos, and appears to be regarded as having an appropriate connexion with religious rites. In one of the temples at Canton a flute player stood by the altar, and while the ceremonies of worship were in progress he blew a soft and melancholy air as an integral part of the service."

14. '70.

TY. A flute. Bamboo, stained and varnished. Five finger-holes on the upper part, and three opposite. *China.* Modern. (Given by the Directors of the Alexandra Palace Company.)

978. '72.

TY. A flute. Bamboo, bound at intervals with silk, and tipped with bone and horn. *China.* 19th century. L. 2 ft. 3 in. (Given by Miss Newbery.)

15. '70.

YO. A flute à bec. Seven finger-holes on the upper part, and two oppoſite. The ſeventh finger-hole, which is placed at a greater diſtance from the ſixth than is the diſtance between the others, is covered with a thin bladder. *China.* Modern. L. $14\frac{1}{8}$ in. (Given by the Directors of the Alexandra Palace Company.)

20. '70.

HEANG-TEIH. A kind of oboe. The tube of wood with braſs mouthpiece and braſs bell. Seven finger-holes on the upper part and two oppoſite. *China.* Modern. L. $12\frac{1}{4}$ in., diam. of bell $3\frac{1}{2}$ in. (Given by the Directors of the Alexandra Palace Company.)

The inſtrument is blown through a little *double reed*, which is ſtuck upon the braſs mouth-tube.

The *heang-teih* is uſed at marriage entertainments, in funeral proceſſions, and on moſt other occaſions of joy or ſorrow. It is a favourite inſtrument with the Chineſe. Its ſound is loud and harſh,—at any rate to European ears; the Chineſe are ſaid to be charmed by it. There are generally two loops on the bell of the *heang-teih*, to which ſilken ornaments are attached.

19. '70.

HEANG-TEIH. A kind of oboe. The tube of wood, with braſs mouthpiece and braſs bell. Seven finger-holes on the upper part and one oppoſite. *China.* Modern. L. $19\frac{3}{4}$ in., diam. of bell $5\frac{3}{4}$ in. (Given by the Directors of the Alexandra Palace Company.)

[illegible] SPEARS

[illegible]

[illegible]

[illegible]

21. '70.

HWANG-TEIH. Brass trumpet. With three sliding tubes. Principally used in funeral processions. *China.* Modern. L., when drawn out, 3 ft. 8 in., when contracted, 22¼ in., diam. of bell 5½ in. (Given by the Directors of the Alexandra Palace Company.)

The *hwang-teih* is made either of thin sheet brass or of copper, and resembles our trombone in as far as its stem is capable of being lengthened and shortened at the will of the player. The *tung-keo*, another Chinese brass wind instrument, is of a construction similar to the *hwang-teih*, the difference between the two instruments consisting chiefly in the position of the bell, which in the *tung-keo* is turned upwards by means of a crook expanding into the bell. The stem of the *tung-keo* is composed of two tubes, one of which can be drawn within the other. There are, moreover, two varieties of this instrument differing in size. Both yield mournful sounds.

The mouth-piece of the *hwang-teih* is curious on account of its flatness. It is not concave like any which are used at the present day in European countries; and it is remarkably broad and thin. A Chinese who played upon one of these instruments in London took the whole disc in his mouth and placed it against his gums, instead of placing it against the lips; but it may be doubted whether this is the established Chinese method of blowing the *hwang-teih*.

7701. '61.

HWANG-TEIH. Brass trumpet. With three sliding tubes. *China.* Modern. L., when open, 4 ft. 2 in. (Bought, 3*l.* 10*s.*)

16. '70.

HWANG-TEIH. Brass trumpet. With two sliding tubes. *China.* Modern. L., when drawn out,

3 ft. $1\frac{1}{4}$ in., when contracted, 20 in., diam. of bell, $3\frac{7}{8}$ in. (Given by the Directors of the Alexandra Palace Company.)

24. '70.

CONCH Trumpet. A conch ſhell, uſed as a trumpet by the Buddhiſt prieſts in China, in their religious ceremonies. *China.* Modern. L. $11\frac{1}{2}$ in. (Given by the Directors of the Alexandra Palace Company.)

The oldeſt and moſt univerſally known trumpets are evidently thoſe which are made of a large ſhell, or of the horn of an animal. The former is, as might be expected, more generally found on iſlands and in thoſe diſtricts of a continent which have a ſea-coaſt. The conch is uſually blown through a ſmall hole which has been drilled for this purpoſe through the ſpiral end. In ſome inſtances we find the hole provided with an artificial projection made of wood or ſome other ſuitable ſubſtance; or a tube is inſerted to facilitate the blowing.

512. '68.

CHENG. Containing 17 pipes of ſmall bamboo reeds, arranged in five ſets, each ſet having pipes of equal length. Moſt of the pipes have a finger-hole on the lower part of the outer ſide; two of them have it on the inner ſide. The pipes are inſerted in an air-cheſt, ſo as to leave an open ſpace in one portion of the circle in which they are ranged. The performer places his thumb in this opening, in order to cover the finger-holes of the inſide when required. The air-cheſt is a bowl made of a gourd, or of wood, and lacquered generally black. The *cheng* contains *free reeds*, or metal tongues, which vibrate and ſound when the finger-holes are cloſed. *China.* Modern. H. 1 ft. $5\frac{1}{4}$ in., W. (including the mouthpiece) $4\frac{1}{4}$ in. (Given by Mr. Engel.)

This is one of the oldeſt inſtruments of the Chineſe ſtill in uſe, and may be regarded as the moſt ancient ſpecies of organ with which we are exactly acquainted. Formerly it was made with a long ſpout for a mouthpiece, which gave it the appearance of an old-faſhioned coffee-pot. The *cheng* is alſo popular in Japan; and a ſimilarly-conſtructed inſtrument, though different in outward appearance, is the *heem* of Burmah and Siam. The Siameſe call their *heem* "The Laos organ," which indicates that they conſider it to have been originally derived by them from Laos. Moreover, there deſerves to be noticed another Chineſe inſtrument of this kind, ſimple in conſtruction, which probably repreſents the *cheng* in its moſt primitive condition. It is to be found among the Meaou-tſze, or mountaineers, who are ſuppoſed to be the aboriginal inhabitants of China. They call it *ſang*. This ſpecies has no bowl, or air-cheſt; it rather reſembles the Pan-pipe, but is ſounded by means of a common mouthpiece conſiſting of a tube, which is placed at a right angle acroſs the pipes. The Chineſe aſſert that the *cheng* was uſed in olden time in the religious rites performed in honour of Confucius. Tradeſcant Lay, in his account of the Chineſe, calls it "Jubal's organ," and remarks, "this ſeems to be the embryo of our multiform and magnificent organ."

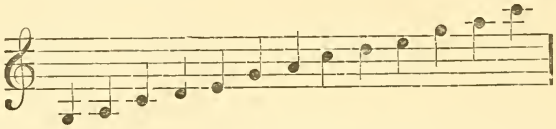
Fig. 116.—Cheng; a Chinese Organ.

8. '70.

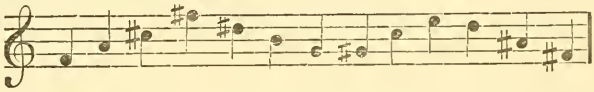
CHENG. Containing 17 bamboo canes, the two longeſt of which are tipped with bone. The canes are inſerted in a wooden chamber with an ivory mounted mouthpiece, and are faſtened together with a band of horn. Inſide the tubes are ſmall vibrating tongues. *China.* Modern. L. 16⅝ in., W. 4 in. (Given by the Directors of the Alexandra Palace Company.)

The *cheng* with ſeventeen tubes is generally ſo conſtructed as to emit thirteen tones,—four of the tubes, being ſilent, merely ſerve to

ſtrengthen the poſition of the others. The tones are produced by cloſing the finger-holes at the lower ends of the tubes, and by blowing into, or inhaling through the mouthpiece. The following are the tones of the tubes in ſucceſſive order:—



In ancient time the *cheng* with thirteen ſounding tubes was tuned to yield the following tones:—



The arrangement of the tones on the old *cheng* with twenty-four tubes, and likewiſe on that with nineteen tubes, was not leſs ſtrange than that given in the laſt notation of the *cheng* with thirteen tubes. It will, however, be obſerved that this notation contains the intervals of the chromatic ſcale, while the previous notation exhibits the pentatonic ſcale.

977. '72.

CHENG. Formed of a cluſter of ſeventeen ſhort bamboo canes, moſtly tipped with ſtained bone, faſtened together by a band of horn, and inſerted into a wooden chamber with ivory mouth-piece. *China.* 19th century. L. 17 in., W. 4½ in. (Given by Miſs Newbery.)

938. '73.

CHENG. *China.* L. 17 in. W. 4 in. (Given by Sir F. Gore Ouſeley.)

25, 25*a*, and 25*b*. '70.

KOU. A drum, with a pair of drumſticks of painted wood and leather. Suſpended by rings in a wooden frame. *China.* Modern. H. of frame 24½ in., diam. of

drum 18 in., L. of drumsticks 11 in. (Given by the Directors of the Alexandra Palace Company.)

The Chinese construct some large and highly ornamented drums called *kou*. One kind, placed between four pillars, is used especially in theatrical performances. The drummer, in order to be enabled to strike it at the top, mounts a platform connected with this drum. Another kind, which is highly ornamented, is raised on a pillar with four feet, on each of which is the figure of a fabulous animal. Above this drum is a canopy made of silk embroidered with gold. A recent traveller in China relates that he saw in one of the famous Buddhist temples at Pootoo, in the vicinity of Ningpo, a "big-bellied drum," ten feet in diameter, fixed on cross-beams about twelve feet from the ground.

26, 26*a*, and 26*b*. '70.

KOU. A small drum resembling a tambourine, with a drumstick. The instrument rests on an expanding tripod stand of bamboo. *China.* Modern. Diam. $10\frac{3}{4}$ in., H. of stand 2 ft. $3\frac{3}{4}$ in. (Given by the Directors of the Alexandra Palace Company.)

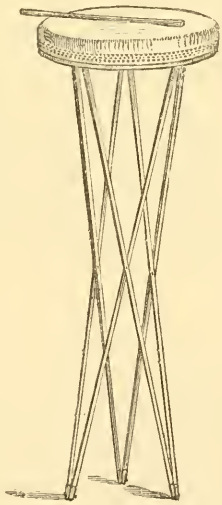


Fig. 117.—Chinese Drum.

This drum, which is covered with horſe-hide, is made uſe of by the Chineſe on the ſtage, for the purpoſe of accompanying the voices of the ſingers. Another little drum, conſiſting of a frame of wood covered with pig-ſkin, and reſting on three legs, is uſed by the Buddhiſts in certain ſacred performances. Large drums are frequently ſuſpended in the temples of the Chineſe, and are occaſionally beaten by the prieſts inſtead of ſaying prayers.

18 to 18*b*. '70.

KOU. A ſmall drum. Wood, covered with pig-ſkin. With two pairs of cane ſticks for beating it. *China.* Modern. Diam. 8½ in., L. of ſticks 10⅜ in. (Given by the Directors of the Alexandra Palace Company.)

28 to 28*d*. '70.

PAN. A piece of wood, with a groove cut nearly through its ſubſtance, and four bamboo ſticks. A rude inſtrument of percuſſion. *China.* Modern. L. 6⅛ in., L. of ſticks 10⅜ in. (Given by the Directors of the Alexandra Palace Company.)

The Chineſe caſtanets, called *pan*, are made of a hard wood reſembling mahogany. The moſt plain ones, the *cha-pan*, or *pih-pan*, are uſed by beggars, who in the ſtreet, before the ſhop doors, vigorouſly clatter them until they are relieved by ſome trifling alms, uſually the ſmall copper coin called caſh. Theſe ſupplicants, who are often blind men, however, frequently uſe two ſimple ſticks of bamboo for the ſame purpoſe.

27. '70.

CHA-PAN. Chineſe caſtanets. Three pieces of hard wood reſembling roſewood. Principally uſed by beggars. *China.* Modern. L. 10½ in. (Given by the Directors of the Alexandra Palace Company.)

12 and 12*a*. '70.

INSTRUMENT of Percussion. Wood, hollowed, carved, painted red, and partly gilt, with wooden stick for percussion. *Chinese.* Modern. Diam. 7 in., L. of stick 10 in. (Given by the Directors of the Alexandra Palace Company.)

This instrument is used in the Buddhist temples in China. It not unfrequently consists of a block of wood shaped like a human skull, and is beaten at certain stages during the religious ceremonies. Moreover, the Buddhist priests use it in combination with other instruments of percussion for accompanying their sacred songs, which they perform sometimes by responding to each other, and sometimes by uniting their voices.

29*a*. '70.

LO. A gong. With a wooden beater. *China.* Modern. Diam. 6 in., L. of beater 7½ in. (Given by the Directors of the Alexandra Palace Company.)

The gong is a favourite instrument of percussion with several Eastern nations. It occurs of various shapes, being in some instances very similar to a cymbal, and in other instances without the cavity in the middle commonly appertaining to the latter instrument.

877. '68.

LO. A gong. With an inscription in Chinese. *China.* About 1830. H. 3 ft. 10 in., W. 2 ft. 10 in. (Given by the officers of the 4th Dragoon Guards.)

The translation of the inscription is—

"A Presentation to the Keo Sang Monastery. In the Manchow Dynasty, on the 15th lucky day of the first month of the twelfth year of Taue Kwong, the tried Scholars with the Buddhist Priests devoutly joined together to erect this Tablet."

"We desire that the merits of those who raised this Tablet may be widely extended to the whole world, and that all who believe the

Buddhiſt doctrine may hear the good tidings. Im taou ning. Taouning Rar. Taou ning ſar Bogſar. Theſe are the Buddhiſt words."

"Theſe are the believers or diſciples of Buddha:"—[Here follows a liſt of 41 names.]

"Theſe are the names of the friars:"—[Here follows a liſt of 17 names.]

17 and 17*a*. '70.

LO-TSEIH. A ſmall gong, ſuſpended in a braſs ring with a handle of black horn. With a ſmall bamboo beater, having a knob at one end. *China.* Modern. L. 12 in., diam. of gong 6 in. (Given by the Directors of the Alexandra Palace Company.)

30. '70.

TUNG-LO. A gong, attached to a piece of wood for ſuſpenſion. *China.* Modern. Diam. $3\frac{3}{4}$ in. (Given by the Directors of the Alexandra Palace Company.)

The *tung-lo*, as well as the *lo-tſeih*, is eſpecially uſed in the temple but alſo by the ſervants walking before a mandarin; and likewiſe at private theatrical entertainments. The particularly ſonorous quality of the *tung-lo* is aſſerted to be owing to an unuſually large proportion of tin in combination with copper. It is an old cuſtom with the Chineſe for ſervants in attendance on a mandarin, when their lord is being carried in a ſedan, to walk in front with gongs and to ſound them, in order to give notice of the approach of the great man. A certain number of ſtrokes denoting the exact rank of the officer is repeated at intervals.

11. '70.

YUN-LO. Carved upright frame of wood, with plaques of carved ivory on the baſe (one plaque miſſing). Ten ſmall metal plates are ſuſpended between the bars of the frame. *China.* Modern. H. 2 ft. 4 in., W. $19\frac{3}{4}$ in., diam. of the largeſt plate

$4\frac{3}{8}$ in. (Given by the Directors of the Alexandra Palace Company.)

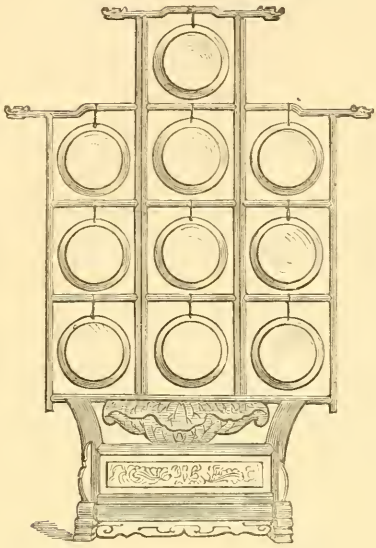


Fig. 118.—Yun-lo. China.

The plates of the *yun-lo* are sounded by means of a small bamboo stick, 7 or 8 inches in length. They are all of nearly the same diameter; but they vary in thickness, and consequently in pitch of tone. They are attuned in the following peculiar order of musical intervals :—

c
f — a — d
g — b-flat — b-natural
e — e-flat — f-sharp.

The tone which corresponds to our *f* is the normal tone of the Chinese pentatonic scale. The tones *f*, *g*, *a*, *c*, *d*, which on the *yun-lo* are found close to each other, belong to this scale. The other tones of the *yun-lo*,—*b-flat*, *b-natural*, *e*, *e-flat*, and *f-sharp*,—enable the performer to produce the same scale in different keys. For instance, it may be transposed thus :—f, g, a, c, d ; c, d, e, g, a ; *d*, *e*, *f-sharp*, *a*, *b* ; *b-flat*, *c*, *d*, *f*, *g*, &c.

The *yun-lo* is used especially by the Buddhist priests in their sacred ceremonies.

22. '70.

SEAOU-PO. Cymbals, pair of. Metal. *China.* Modern. Diam. 12½ in. (Given by the Directors of the Alexandra Palace Company.)

23. '70.

SEAOU-PO. Cymbals, pair of. Metal. *China.* Modern. Diam. 8 in. (Given by the Directors of the Alexandra Palace Company.)

Cymbals are, indeed, widely diffuſed, eſpecially among Aſiatic nations. They occur of very ſmall dimenſions, in which caſe they reſemble ſome kinds of caſtanets; but as they are conſtructed of metal, the ſound emitted by them is generally more definite and acute.

838. '69.

BIVA. A kind of lute. The body is of wood, lacquered black, and ornamented with a band of Japaneſe deſign in gold lacquer. Four ſtrings, and two very ſmall ſound holes. *Japan.* Modern. L. 2 ft. 4 in. (Bought, Paris Exhibition, 1867, 14*l.*)

The performer twangs the ſtrings with a plectrum. The *biva* is almoſt identical with the Chineſe *pepa*, which has four ſtrings of ſilk and is provided with frets.

839. '69.

TAKI-GOTO. Bamboo, with 13 ſtrings of ſilk neatly twiſted. The body ornamented with embroidered work, and painted with inſcriptions, flowers, and foliage; in the centre is carved an open fan. Gilt, ornamented with painted foliage, and having taſſels at each end. *Japan.* Modern. L. 6 ft. (Bought, Paris Exhibition, 1867, 16*l.*)

Fig. 119.—Biva. Japan. (See page 194.)

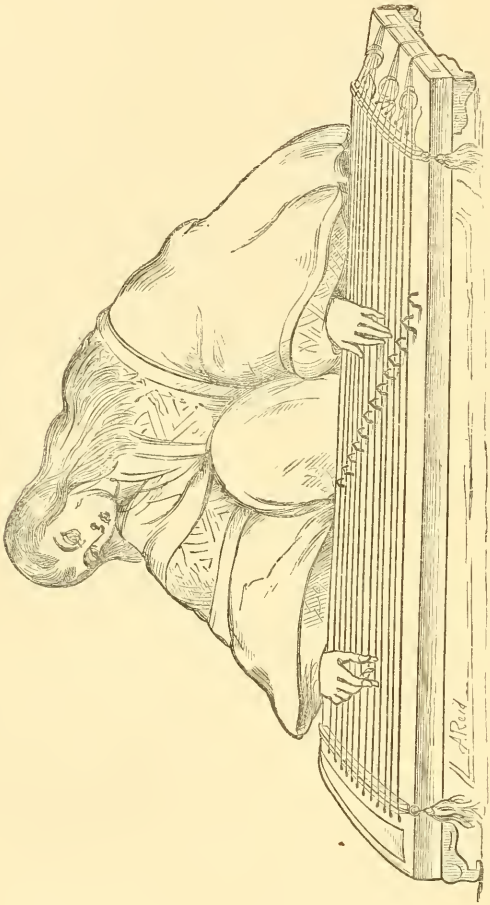
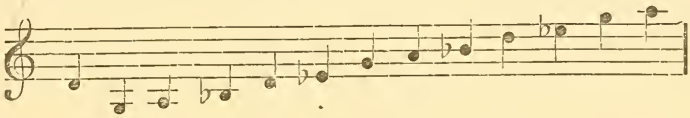


Fig. 120.—Taki-goto. Japan. (See page 194.)

The Japanese have several instruments of the dulcimer class, called *goto*, or *koto*. The *taki-goto* is provided with thirteen movable bridges, by means of which the pitch of the strings is regulated. The bridges are of wood, and about $2\frac{1}{2}$ inches in height. According to Meijlan ('Japan voogesteld in Schetsen,' Amsterdam, 1830), the *goto* is tuned in the following chromatic order of intervals :—

Some species of the *goto* are played with *plectra* affixed to the fingers; and there are different successions of intervals adopted in the tuning of the several species.

The chromatic succession is probably more usually adopted on the *jamato-goto* than on the *taki-goto;* for the latter is known to be generally tuned in the following pentatonic order :—



The *taki-goto* is learnt chiefly by Japanese ladies moving in the upper circles of society. It is a rather expensive instrument, and requires much practice. The performer places it on the floor, and, sitting in the usual Japanese attitude, bends over it and twangs the strings with her fingers, the tips of which are encased in *plectra*, resembling thimbles, which terminate with a little projecting piece of ivory in size and form like the finger nail.

885. '69.

SIME-DAÏKO. Small drum. The body in lacquer ware, ornamented with embossed flowers and foliage in gold. Two deal drumsticks in case, and a folding stand. *Japan.* Modern. Diam. 1 ft. $1\frac{1}{2}$ in., H. $5\frac{3}{4}$ in. (Bought, Paris Exhibition, 1867, 8*l.*)

The general name in Japanese for the drum is *daïko.* The Japanese have a great variety of drums, some of which are used at religious ceremonies in the temple. The *sime-daïko* is suspended in a wooden frame by means of silken cords, and is beaten on its upper part with sticks.

1025*c*. '71.

KIEN. Gong. Bronze. Suſpended in a wooden frame. *Japan.* 18th century. H. of gong 2 ft., W. 2 ft. 3 in. With inſcriptions in Japaneſe on both ſides. (Bought [with other bronze objects], 115*l*.)

This gong, which is not unlike a copper kettle open at the bottom, is ſounded by being beaten with a ſtick.

The Japaneſe have different kinds of gongs. The *tjantjan* reſembles a copper baſin. The *ſoeligane* conſiſts of two metal baſins ſuſpended by cords on a frame compoſed of a pole and two croſs-ſticks. The Japaneſe uſe gongs in the ſervice of the temple, in proceſſions, at funerals, and on ſeveral other ſolemn occaſions.

The Japaneſe, as well as the Chineſe, poſſeſs ſuperbly ornamented gongs raiſed on a ſtand. Thoſe of the Japaneſe are perhaps the moſt magnificent.

1036. '71.

BELL. Bronze, chaſed with borders, and inſcriptions within panels, the upper part decorated with boſſes, with handle formed of two conjoined dragons' heads. From a deſtroyed temple in Japan. *Old Japaneſe.* H. 4 ft. 2 in., diam. 2 ft 2 in. (Bought, 44*l*.)

The Japaneſe employ large bells in their Buddhiſt worſhip. There is a famous bell, richly engraved, in a kind of belfry connected with a temple near Hakodadi, which is ſtruck, at different hours of the day, with a heavy wooden mallet; and its ſound is ſaid to be particularly ſonorous, mellow, and far-carrying. Another celebrated Japaneſe bell is placed on a high hill near the town of Yokohama. It is ſuſpended in a wooden ſhed, cloſe to a temple. A thick pole, affixed to the rafters, is drawn backwards, and then, by being let looſe, is made to rebound ſo as to hit the bell ſideways in the uſual manner. This bell is admired throughout the country, and pictures repreſenting it are ſold on the ſpot to the viſitors, who have to aſcend a long flight of narrow ſteps before they reach its ſtation on the ſummit of the hill. Moreover, alſo ſmall bells are uſed by the Buddhiſt prieſts in Japan while officiating in the temple,—juſt as is the caſe in China, Thibet, and other diſtricts of the Aſiatic continent, and alſo in the Roman Catholic church in European countries.

1037. '71.

BELL. Bronze, chased with borders, with inscriptions and raised figures within panels, the upper part decorated with bosses, with handle formed of two conjoined dragons' heads. From a destroyed temple in Japan. *Old Japanese.* H. 3 ft. 10½ in., diam. 2 ft. (Bought, 41*l.* 10*s.* 6*d.*)

1028. '71.

BELL. Bronze, chased with borders and inscriptions within panels, the upper part decorated with bosses, with handle formed of two conjoined dragons' heads. From a destroyed temple in Japan. *Old Japanese.* H. 4 ft. 8 in., diam. 2 ft. 6½ in. (Bought, 55*l.*)

494. '72.

INSTRUMENT of Percussion, sounded by the wind. Copper openwork, dome-shape, in imitation of apple sprigs with silver blossoms; with silk tassels and knot for suspension, and twelve white metal and gilt leaves hanging down by silk cords. *Japan.* 19th century. Diam. 8 in. (Bought, 5*l.* 10*s.*)

When the instrument is exposed to the wind, the metal leaves are caused to touch each other, whereby silvery and remarkably pure sounds are produced, continually changing in the degree of loudness according to the greater or less force of the percussion.

Although all the Æolian musical instruments might not improperly be regarded as wind instruments, musically they belong to three different classes, viz., stringed instruments, wind instruments, and instruments of percussion. Several of these contrivances are very ingenious and interesting. It would require much space to notice the various Æolian harps, flutes, cymbals, and bells constructed by different nations. Suffice it to point out some curious instruments of the kind invented by Asiatic nations.

The Chineſe conſtruct kites in various groteſque forms, repreſenting fiſhes, butterflies, tigers, dragons, ſerpents, from ten to thirty feet in length, men ſailing through the air, &c., which, by means of round holes ſupplied with vibrating cords, are made to produce Æolian muſic.

The Stiêns, a ſavage tribe dwelling in the mountainous diſtrict of Siam, ſend up kites to which they attach an inſtrument ſomewhat reſembling a bow, which when agitated by the wind produces ſounds deſcribed by a European traveller as "ſweet and melodious."

A curious inſtrument of the Æolian kind is conſtructed by the natives of the Malay Peninſula, who call it *bulu-pârindu* ("the languiſhing bamboo") or *bulu-ribut* ("the bamboo of the ſtorm"). It conſiſts of a bamboo cane, rough from the jungle, meaſuring from 30 to 40 feet in length, which is perforated with holes, and ſtuck in the ground. Its effects are deſcribed as faſcinating, ſome of the ſounds being "ſoft and liquid like the tones of a flute, and others full like thoſe of an organ." The natives of the Malay Peninſula alſo make out of the ſmaller bamboos a number of pipes which they ſtring together and expoſe ſo as to be ſounded by the paſſing wind. Furthermore, they conſtruct a kind of Æolian harp, conſiſting of a long thick piece of bamboo ſplit between the knots ſo as to reſemble the ſtrings of a harp, which they hang on the tops of the higheſt trees in the foreſt in ſuch a poſition that the wind as it ſweeps by, vibrates the cords.

Even more extraordinary is the contrivance of ſound-producing arrows invented by the Chineſe. The arrow has at the point a horn-tube, which is perforated with a hole. When diſcharged from the bow, it, while paſſing through the air, produces a tone. But whether the Chineſe contrive to ſhoot a tune in the air, has not been aſcertained by European byſtanders.

In England the invention of the Æolian harp is generally attributed to Dunſtan, Archbiſhop of Canterbury, who, according to an old tradition, conſtructed about the middle of the 10th century an Æolian harp, which he hung againſt a crevice in a wall, to cauſe the wind paſſing the crevice to vibrate the ſtrings. The ſoft and gentle ſounds thus emitted by an inſtrument untouched by human hand ſo greatly aſtoniſhed and awed the people, that they accuſed Dunſtan of ſorcery. If this tradition may be relied upon, the Æolian harp muſt have been unknown in England before the 10th century, or, if it had been previouſly known, it muſt have fallen into oblivion, juſt as was the caſe in the 17th century when Pope brought it anew before the Engliſh people.

Moſt probably the inſtrument was known in Aſia long before the Chriſtian era. Sir James Emerſon Tennent ('Ceylon, an Account of the Iſland, phyſical and topographical,' London, 1859) quotes a paſſage

from the Mahavanſo, a ſacred and hiſtorical book of the Singhaleſe, which is as follows: "The king, Prakrama, built a palace at the city of Pollanarrua, and the ſtoneworks were carved in the ſhape of flowers and creeping plants, with golden networks which gave harmonious ſounds, as if they were moved by the wind." Sir William Jones ('On the Gods of Greece, Italy, and India,' Aſiatic Reſearches, vol. i., Calcutta, 1788) mentions that in the poem entitled Magha, the invention of the Hindu *vina* is thus alluded to: "Nareda ſat watching from time to time his large *vina*, which, by the impulſe of the breeze yielded tones that pierced ſucceſſively the regions of his ear, and proceeded by muſical intervals." Again, according to Rabbinic tradition, King David's harp ſounded at midnight, its ſtrings being vibrated by the north wind, and King David was in the habit of ſuſpending it during the night over his couch. This ſo-called harp, the Hebrew *kinnor*, was probably a ſpecies of lyre. Incredible as it may appear that King David ſhould have had a current of air over his couch ſtrong enough to cauſe his *kinnor* to ſound, the tradition is nevertheleſs noteworthy, inaſmuch as it indicates an early acquaintance in the Eaſt with the phenomenon exhibited by the Æolian harp.

THE CAUCASUS,

AND NEIGHBOURING DISTRICTS.

THE majority of the various tribes of the Caucaſus have bards, called Kikoakoa, who recite in verſe old ſtories, fairy tales, and occaſionally extempore poetry, accompanying their vocal effuſions with a three-ſtringed kind of guitar, called *balalaika*. The Suanets, a people dwelling in the higheſt of the inhabited valleys of the Caucaſus, have a rude ſtringed inſtrument, called *tſchengjir*, which they play at funerals to accompany their ſongs of lamentation. It is, however, alſo uſed on other occaſions, and appears to be almoſt identical with the harp of the Oſſetes. The Circaſſians have ſome peculiar inſtruments of their own. In the diſtricts to the ſouth of the Caucaſus, or in Trans-Caucaſia, the inſtruments moſtly reſemble thoſe of Perſia and Turkey.

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993. '69.

HARP of the Oſſetes. With twelve ſtrings of horſe-hair, ten black, and the two longeſt white, each ſtring conſiſting of from ſix to eight hairs. Modern. W. 2 ft., H. 1 ft. 10 in. (Bought, Paris Exhibition, 1867, 1*l.* 8*s.*)

The Oſſetes, or Oſſetines, are an Indo-Germanic race dwelling in Central Caucaſus. They call themſelves Irôn; Oſeti is the name given to them by the Georgians, and other neighbouring nations.

Their little harp is eſpecially intereſting, on account of its reſemblance to ſome inſtruments of this claſs repreſented on monuments of Eaſtern nations, dating from about a thouſand years before the Chriſtian era. The fore pillar, which in our harp ſerves to reſiſt the tenſion of the ſtrings, is wanting; and the ſame was the caſe with the ancient Oriental harp, and is ſo ſtill with moſt harps found in Aſiatic countries.

989. '69.

BAGHLAMA. A ſmall kind of *tamboura*, with four ſtrings of thin wire, and frets made of gut dyed red. The body is of wood, ornamented with mother-of-pearl and tinſel. Modern. L. 1 ft. 8¾ in. (Bought, Paris Exhibition, 1867, 1*l.* 19*s.* 2*d.*)

There are ſeveral varieties of this inſtrument to be found in the Caucaſus and adjacent countries. The ſtrings are twanged with a quill.

990. '69.

BAGHLAMA. A ſmall kind of *tamboura*, with four ſtrings of thin wire, and frets made of gut. Wood, inlaid with bone and mother-of-pearl. Modern. L. 1 ft. 6½ in. (Bought, Paris Exhibition, 1867, 16*s.* 10*d.*)

992. '69.

CIRCASSIAN Violin and Bow. Wood, with two ſtrings of horſe-hair. In the middle of the body ſome ſmall ſound holes are pierced. Modern. L. 2 ft. 2½ in. (Bought, Paris Exhibition, 1867, 5*s.* 8*d.*)

The bow belonging to the Circaſſian violin is much curved, and is ſtrung with hair taken from the tail of the horſe, as is likewiſe the caſe with the two (rarely three) ſtrings on the inſtrument. This ſpecies of

violin ſomewhat reſembles the *guſzla* which has been in uſe by moſt of the Slavonic tribes in Europe from an early period. The *guſzla* has, however, only one ſtring of horſehair.

999. '69.

SKRUIBKA, or *Kemangeh roumy.* Wood, inlaid with mother-of-pearl and bone. *Caucaſus.* Modern. L. 1 ft. 7 in. (Bought, Paris Exhibition, 1867, 1*l.* 2*s.* 6*d.*)

This inſtrument, which in ſhape reſembles our antiquated *rebec*, is conſtructed on the principle of our *viole d'amour*, now likewiſe fallen into oblivion. It has three ſtrings of ſilk, which are played upon with a bow; and three other ſtrings, of thin wire, which are drawn through the bridge and run beneath the ſilken ſtrings. The wire ſtrings merely ſerve to increaſe the ſonorouſneſs of the upper ſtrings vibrated by the bow. It is a well-known fact, that if of two ſonorous bodies tuned in uniſon, or in octaves, one is made to ſound, the other will alſo vibrate, and will ſound without being touched. The Hindus eſpecially have many ſtringed inſtruments in which ſympathetic ſounds are employed. The Turks have a ſpecimen called *ſine keman*, which is conſtructed on this principle, and which reſembles the Caucaſian inſtrument under notice. *Kemangeh roumy* ſignifies "Greek viol."

Skruibka is the name by which the Ruſſians denote the violin in general. In the ſtringed inſtruments of European nations the uſe of ſympathetic tones has almoſt entirely been diſcarded, eſpecially ſince the ſound-board has been conſtructed on more acouſtic principles and continually improved.

991. '59.

SANTIR. A kind of dulcimer. Wood, inlaid with mother-of-pearl. It contains twenty-five ſets of wire ſtrings, each ſet conſiſting of four ſtrings which are tuned in uniſon. In the middle are two rows of movable bridges, by means of which the pitch of the ſtrings is regulated. The bridges, which ſomewhat reſemble cheſſmen, are made of wood, painted red and green, and have at the top a ſmall ſtrip of braſs on which the ſtrings reſt. The tuning-pegs are on the right

ſide of the ſound-board. *Georgia.* Modern. H. $2\frac{1}{2}$ in., greateſt L. 2 ft. $4\frac{7}{8}$ in. (Bought, Paris Exhibition, 1867, 2*l.* 10*s.* 4*d.*)

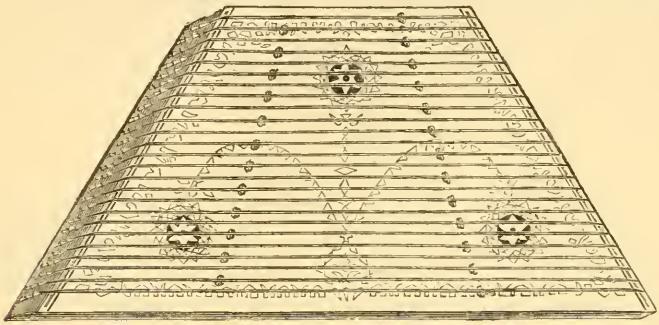
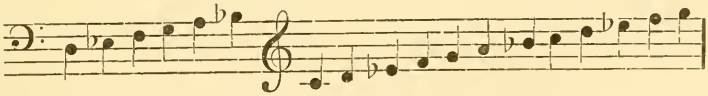


Fig. 122.—Santir.

The *ſantir* is played with two little hammers, juſt as is the caſe with the dulcimer. Its name may poſſibly be a corruption of *pſalterion;* for, according to the ſtatement of ſome writers, it was formerly called by the Copts in Egypt *piſalterion.* However this may be, the preſent ſpecimen cannot fail to prove eſpecially intereſting to the muſical hiſtorian if compared with the fine ſpecimen of an Italian dulcimer of the ſeventeenth century exhibited among the antiquated inſtruments in the preſent collection (*ſee* 264. '66, page 235). The reſemblance which theſe two inſtruments bear to each other is very remarkable.

The *ſantir* is one of the oldeſt-known muſical inſtruments of the Perſians and Arabs. The Hindus, likewiſe, have a dulcimer of this kind, called *ſar mundal*, which is, however, not played with hammers but with a plectrum. The *ſar mundal* reſembles the *kanoon* in ſhape, but it is ſtrung with wire, and may be regarded as holding a middle place between the *ſantir* and *kanoon.*

The Egyptian *ſantir* has thirty-ſix ſtrings, which are arranged in eighteen pairs ſo as to produce the following tones :—



The peculiar conſtruction of a handſome *ſantir* which was ſent from Turkey to the International Exhibition, London, 1862, may be briefly deſcribed as follows :—Trapezium ſhape ; depth, 2 ft. 11 in. ; width in front, 2 ft. 11 in. Two round ſound-holes taſtefully embelliſhed. Braſs

wire ſtrings. One hundred and four tuning pegs of iron, ſomewhat reſembling thoſe on our pianoforte. On the ſound-board two long bridges of braſs, over and under which the ſtrings run. In addition to theſe bridges, two ſmall wooden ones, viz., one for the two loweſt ſtrings and one for the ſix higheſt ſtrings. Moſt of the groups of ſtrings conſiſt of ſix tuned in uniſon, only the groups for the deepeſt tones have fewer ſtrings, ſo that the one hundred and four ſtrings produce only nineteen tones.

TURKEY.

MOST of the muſical inſtruments of the Turks are nearly identical with thoſe of the Arabs and Perſians. Moreover, the Turks have a popular tradition according to which their muſic attained the degree of perfection, which they aſcribe to it, through the influence of a great compoſer and performer who came from Bagdad. They relate that when Amurath IV. conquered Bagdad, which happened in the year 1638, he commanded that 30,000 inhabitants ſhould be ſlain before his eyes. At the moment when the ſoldiers commenced executing the order of the cruel ſultan, there appeared before him Shah-Kuli known as the Perſian Orpheus. The bard ſtrikes his harp and ſings; and ſo touchingly does he ſing and play that the ſultan, moved to tears, pardons everyone, and takes Shah-Kuli and four other Perſian muſicians with him to Conſtantinople, to refine his people. Shah-Kuli's famous ſong, 'The Conqueſt of Bagdad,' is ſtill known in Turkey.

The muſical inſtruments of the Turks are chiefly made in Conſtantinople. The woods principally uſed in their conſtruction are from the towns of Iſmid and Bartan in Aſia Minor; and alſo from Abaſa in Trans-Caucaſia. Roſewood and ebony are imported from India, and mahogany from America. The copper and ſilver uſed in the conſtruction and ornamentation of the inſtruments are obtained from the mines of Tokat in Aſia Minor, Samakow in Bulgaria, and ſome other places. The tortoiſe-ſhell, mother-of-pearl, and ivory are imported from Egypt, and from Yemen and Hedjaz in Arabia. The buffalo horn comes from Gallipoli and Iſmid. The gut ſtrings are principally fabricated in the towns of Kaïſariyeh and Kiankary in Aſia Minor. The cymbals (called in Turkiſh *Zil*), in the fabrication of which the Turks excel, are chiefly made in Conſtantinople. The brothers Keuropé of that city export annually about 1,300 pairs of *zils* into Weſtern European countries, and even as far as to America. The price is about 30*s*. the pair.

Turkiſh inſtruments of percuſſion have long ſince been introduced into Weſtern European orcheſtras, eſpecially into military bands. "Janiſſary Muſic" was to ſome extent adopted in Germany about the middle of the laſt century. The Janiſſaries, it will be remembered, were the foot-guards of the Sultan until the year 1826. The King of Pruſſia, Frederick II., after having organiſed ſuch a military band, ordered it to perform before Achmet Effendi, the Turkiſh ambaſſador at Berlin. Achmet Effendi, ſmiling, ſhook his head and ſaid, "That is not Turkiſh." Whereupon the King ſent expreſſly to Conſtantinople for genuine Turkiſh muſicians, in order to enſure the characteriſtics of the Janiſſary band direct from the ſource. The Auſtrians may have had good opportunities of learning this kind of muſic from their Turkiſh aggreſſors, who, towards the end of the ſeventeenth century, puſhed ſo far forwards from Hungary as actually to beſiege Vienna, and to terrify with their martial ſtrains the peaceable citizens.

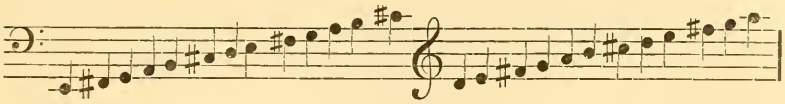
1032. '69.

ANOON. The front and ſides are inlaid with patterns in mother-of-pearl. Modern. Greateſt L. 3 ft. $1\frac{3}{4}$ in., greateſt W. 1 ft. $3\frac{1}{2}$ in. (Bought, Paris Exhibition, 1867, 24*l.* 18*s.*)

The *kanoon*, or *qânon*, an inſtrument eſpecially appertaining to the Arabs and Perſians, is, like the *ſantir*, a kind of dulcimer evidently of high antiquity in the Eaſt. The *kanoon* differs from the *ſantir* not only in form, but alſo in the circumſtance that its ſtrings are of gut (generally made of the inteſtines of the lamb), and are twanged with two ſmall *plectra*, one attached to the fore-finger of each hand; while the ſtrings of the *ſantir* are of wire, and are ſtruck with two little ſticks. In Turkey, the *kanoon* is a favourite inſtrument with the ladies in the Seraglio, and in the hareems of the wealthy claſſes. They uſe plectra made of tortoiſe-ſhell, pointed with cocoa-nut ſhell. Sometimes the plectra are made of ſilver.

The *kanoon* is generally mounted with ſeventy-five gut ſtrings, which produce twenty-five tones, each tone having three ſtrings in

uniſon. The inſtrument is tuned according to the following order of intervals :—



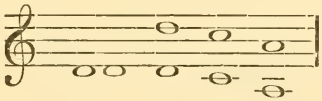
The preſent ſpecimen has ſeventy-two ſtrings, producing twenty-four tones ; and a fine *kanoon* from Turkey which was in the International Exhibition, London, 1862, had alſo ſeventy-two ſtrings, arranged in uniſons of three.

576. '72.

TANBOUR Kebyr Tourky. The body bulbous, of wood ſtriped with ivory, with inlay of tortoiſe-ſhell and mother-of-pearl. The neck with catgut frets. Eight ivory tuning-pegs. Thin wire ſtrings. Made in the 18th century. L. 4 ft. $5\frac{3}{4}$ in., Diam. $12\frac{1}{2}$ in. (Bought, 12*l.*)

The *tanbour*, or *tamboura*, may be regarded as the eaſtern mandoline. There are various kinds of this handſome inſtrument in uſe, differing in ſhape, ſize, and in the number of ſtrings. The body is generally of an oval ſhape, or rather pear-ſhaped. Of this form are, for inſtance, the *tanbour bouzourk* ("great tamboura") ; the *tanbour boulgháry* ("Bulgarian tamboura") ; the *tanbour baghlama* ("ſmall tamboura") ; the *tanbour charqy* ("oriental tamboura.")

The body of the *tanbour kebyr tourky* ("large Turkiſh tamboura") is circular in ſhape. The open ſtrings produce four tones, of which one is a uniſon, and three are octaves, thus :—



The ſtrings are twanged with a plectrum made of tortoiſe-ſhell, and called *zakhmeh*.

The *tanbour kebyr tourky* has generally thirty-five frets of thin catgut (or lambgut), each of which is wound four times tightly round the neck. The frets are placed at diſtances from each other calculated to ſecure a ſeries of one-third tones according to the Arabic ſcale.

1011. '69.

SAZ. A fmall kind of *tamboura*, like the *baghlama* noticed page 203, with frets made of gut. Inlaid with various woods, tortoife-fhell, ivory, and mother-of-pearl; the fix tuning pegs ornamented with filver. Modern. L. 1 ft. 11 in. (Bought, Paris Exhibition, 1867, 3*l.* 1*s.* 3*d.*)

The *faz* is chiefly ufed by the *Sho'ara*, i.e. "Poets," who are itinerant muficians and bards of the Muffulmans.

1010. '69.

DOUBLE Saz. Inlaid with various woods and mother-of-pearl. Seven tuning-pegs, metal ftrings, and frets made of gut. Modern. L. 1 ft. 7 in. (Bought, Paris Exhibition, 1867, 2*l.* 8*s.* 7*d.*)

1009. '69.

KEMANGEH. A fpecies of violin, with three ftrings of gut, long tuning-pegs of ivory, and two found holes behind the bridge. The back and upper portion are ornamented with tortoife-fhell inlaid with ivory, and the back is decorated with a large rofette. Modern. L. 1 ft. 4 in., L. of the tuning-pegs, 6 in. (Bought, Paris Exhibition, 1867, 7*l.* 5*s.* 9*d.*)

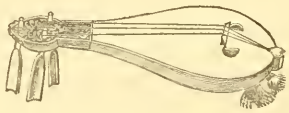


Fig. 122.—KEMANGEH.

The name *kemangeh* fignifies an inftrument which is played with a bow; and there are various kinds of the *kemangeh* in ufe among Mohammedan nations. Some kinds are of confiderable fize, and reft on

the ground while they are played. The *kemangeh a'gouz*, for inſtance, is ſupported on an iron rod, and the performer aſſuming a ſitting poſture, holds the inſtrument before him, ſomewhat in the ſame manner as our violoncello is held.

1031. '69.

REBAB eſh-Sha'er. The body conſiſts of a wooden frame, over which a parchment is ſtretched; one ſtring of white horſe-hair. The inſtrument terminates in an iron foot, on which it reſts. Modern. L. 3 ft. 2½ in. (Bought, Paris Exhibition, 1867, 1*l.* 18*s.* 6*d.*)

Fig. 123.—Rebab esh-Sha'er.

The *rebab eſh-ſha'er*, or the "Poet's viol," is an inſtrument of the Arabs as well as of the Turks. In Egypt it is generally uſed in the coffee houſes to accompany the recitations of the "Sha'er" or poet (plural "Sho'ara"), who entertains the tobacco-ſmoking and coffee-ſipping gueſts with a romance. His relation is interſperſed with poetry, which he chants; and after each verſe he plays a little interlude on his inſtrument. The romance uſually recited is "The Life of Aboo-Zeyd;"

and hence the *rebab efh-fha'er* is alfo called "The Aboo-Zeydee viol." It is often made with two tuning pegs, fo that a fecond ftring may be added at the option of the performer.

1013. '69.

DUDUK. A kind of flageolet. Wood, with feven finger-holes above and one underneath. Modern. L. 1 ft. 5 in. (Bought, Paris Exhibition, 1867, 1*s.* 3*d.*)

1018. '69.

NAY. A flute. Of wood; in three pieces. Ornamented with inlaid metal work, and having 12 finger-holes. Modern. L. together 2 ft. 9¼ in. (Bought, Paris Exhibition, 1867, 14*s.* 5*d.*)

The *nay* is founded by blowing through a very fmall aperture of the lips againft the edge of the orifice of the tube, and directing the wind chiefly within the tube. There is no artificial contrivance in the tube to affift the player, and much practice is required to produce a proper tone. From the way in which fome of the flute players reprefented on the ancient Egyptian monuments hold their inftrument, with the upper end of the tube placed againft the lips, it would appear that the *embouchure* of the performer on the *nay* is of very high antiquity. The American Indians in Guiana and Northern Brazil have a fimilar method of founding their rude bone flutes. They, however, narrow the upper end of the tube by partly clofing it with a refinous fubftance. Furthermore, there are nofe-flutes played in this way with the nofe inftead of the mouth, a manner of performance efpecially relifhed by the Polynefian iflanders.

1019. '69.

GHIRIF. Small pipe. Black wood, with feven finger-holes. Modern. L. 8½ in. (Bought, Paris Exhibition, 1867, 2*s.* 6*d.*)

1015. '69.

ZUMMÁRAH. Double reed pipe, each reed having ſix finger-holes. Modern. L. $8\frac{3}{4}$ in. (Bought, Paris Exhibition, 1867, 1*s.* 7*d.*)

The name *zummárah*, which is given to a little reed pipe conſiſting of two tubes of equal length, muſt not be miſtaken for *zamr*, which applies to a ſpecies of hautboy in uſe with the Arabs.

1017. '69.

ZUMMÁRAH. Double reed pipe, each reed having ſix finger-holes. Modern. L. $8\frac{3}{4}$ in. (Bought, Paris Exhibition, 1867, 1*s.* 7*d.*)

1016. '69.

ARGHOOL. Double pipe of reed, in three pieces. Rudely ornamented with a pattern ſcratched upon the inſtrument. Modern. L., when put together, 2 ft. $5\frac{1}{2}$ in. (Bought, Paris Exhibition, 1867, 2*s.* 7*d.*)

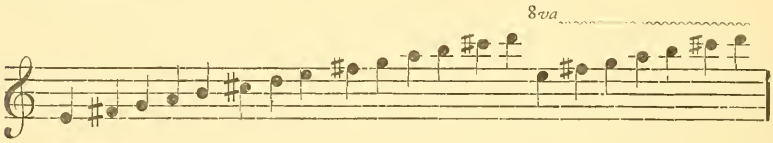
For ſome account of the Arghool ſee page 143.

1014. '69.

ZOURNA Vezirli. A kind of hautboy. Modern. L. 1 ft. $2\frac{1}{2}$ in. (Bought, Paris Exhibition, 1867, 4*s.* 10*d.*)

There are ſeveral kinds of the *zourna* (or *zamr*) in uſe in Turkey, Egypt, Perſia, and Hinduſtan. The ordinary ſized and moſt common *zourna* may be deſcribed as follows:—The tube, uſually made of cherry wood, ſomewhat increaſes in diameter towards the upper end. It is pierced with eight finger-holes, ſeven of which are placed on the upper ſide equidiſtantly; the eighth, which is for the thumb, is placed on the

oppoſite ſide towards the upper end of the tube. In addition to theſe finger-holes there are five ſmall holes ſituated near the lower end. Theſe ſmall holes are only occaſionally uſed, when the pitch of the inſtrument is altered. The alteration of the pitch is effected by means of the neck of the *zourna*, which conſiſts of a wooden cylinder fitted into the tube. A portion of the cylinder is cut out at one ſide, and if this inciſed portion is placed in the direction of the finger-holes the paſſage of the air is admitted to all of them; but if the cylinder is turned, ſo that its ſolid ſide is in the direction of the finger-holes, two of them and the hole for the thumb are cloſed by it. In the latter caſe the ſmall holes alluded to are made uſe of. In the top of the wooden cylinder is inſerted a ſmall tube of metal, upon which a ſmall *double-reed* —generally made of the ſtem of the *dourrah*, a ſpecies of maize—is ſtuck, and tightly faſtened by means of threads. Placed over the metal tube is a diſc of ivory, ebony, or ſome other hard wood, with a hole in the middle. The player does not vibrate the reed between his lips, as is done on our oboe; he takes the reed and the tube into his mouth as far as the diſc, againſt which he preſſes his lips. In covering the finger-holes he does not uſe the tips of the fingers, but the firſt joints. The compaſs of the middle-ſized or common *zourna* is—



The treatment of the ſeveral ſpecies of *zourna* is much the ſame; he who can play one can play all.

1027. '69.

GHAÏDA. Bagpipe. The woodwork inlaid with metal, and ornamented with a taſſel formed of ſtring and glaſs beads. Modern. (Bought, Paris Exhibition, 1867, 15*s*.)

The bagpipe (Italian, *cornamuſa*, *muſetta*, *piva*, *zampogna*; French, *cornemuſe*, *muſette*; German, *ſackpfeife*, *dudelſack*; Ruſſian, *wolynka*, *koſa*; Poliſh, *dudy*; Finniſh, *pilai*; Scotch (Gaelic), *piob mhor*; Welſh, *pibau*; Perſian, *neï ambánah*; Arab-Egyptian, *zouggarah*, *zummárah bi-ſoan*), is an inſtrument of high antiquity, and is very univerſally diffuſed, eſpecially in Europe and Aſia. In Scotland and Ireland it is regarded as an old national inſtrument. Some centuries ago it appears to have

been alſo very popular in ſome counties of England. Shakſpeare alludes to the Lincolnſhire bagpipe, in Henry the Fourth, Part I.

Fal. 'Sblood, I am as melancholy as a gib-cat or a lugged bear.

P. Hen. Or an old lion, or a lover's lute.

Fal. Yea, or the drone of a Lincolnſhire bagpipe.

1028. '69.

GHAÏDA. Bagpipe, in three parts. The wood-work mounted in bone, and ornamented with metal inlaid; the pipes contain vibrating tongues. Modern. (Bought, Paris Exhibition, 1867, 14*s.* 6*d.*)

1012. '69.

DAÏRA. Tambourine, with five pairs of metal plates. The frame-work is of tortoiſe-ſhell, inlaid with mother-of-pearl. Modern. Diam. $13\frac{1}{8}$ in. (Bought, Paris Exhibition, 1867, 8*l.*)

The tambourine is one of the moſt univerſally-favoured kinds of drum; at leaſt, moſt nations poſſeſs a ſomewhat ſimilar inſtrument, containing only one parchment inſtead of two. The tambourine common in moſt European countries conſiſts of a rim made of wood, generally from two to three inches in breadth, and about fifteen inches in diameter. Faſtened to the rim at regular diſtances, and in pairs, are ſmall plates of braſs. They are fixed looſely, ſo that they ſhake when the parchment ſtretched in the rim is made to vibrate. The performer holds the inſtrument in his left hand, and employs his right hand in beating the parchment, or in rubbing it with the fore-finger or the thumb. By rubbing it, a whirring and jingling noiſe is produced owing to the vibration of the braſs plates. Expert performers, beſides, increaſe the effect by a dexterous manner of turning the tambourine while they are ſtriking it; by toſſing it occaſionally into the air, and catching it again; by making it ſpin on the point of the little finger; and by ſimilar exhibitions of agility and ſkill.

The name "Tambour de Baſque," by which this inſtrument is commonly known in France, was given to it, it is ſaid, becauſe the

people in Biſcay uſe this drum eſpecially. Probably it came in its preſent and more perfect conſtruction originally from Spain. A more ſimple kind, undoubtedly was common in European countries long before the Arab invaſion of Spain. The tambourine occurs in repreſentations of the ancient Egyptian and Aſſyrian inſtruments.

At the end of the laſt century it was not unuſual in France for ladies of the higheſt families to practiſe the tambourine, and to diſplay at *ſoirées* their graceful dexterity and charming attitudes in handling the inſtrument, which was uſually played in combination with the pianoforte or the harp.

ROUMANIA.

THE national muſic of the Wallachians and Moldavians exhibits ſome characteriſtic features which are chiefly owing to the peculiar rhythm, and to the prevalence of certain ſucceſſions of muſical intervals. It is eſpecially the frequent occurrence of the interval called the *ſuperfluous ſecond*, which contributes to give the muſic of Roumania a peculiar ſtamp of its own. Many of the Wallachian airs are very expreſſive and beautiful; and, when compared with the Scotch, Iriſh, and other national airs well-known in England, they afford an intereſting example of the diverſity of expreſſion revealed in the popular muſic of different races.

The itinerant muſical bands in Wallachia are called *lautari*, the word for "muſician" being *lautar;* the performers conſtituting a band are often gipſies. In Bucharest and its vicinity their little orcheſtra generally conſiſts of a Pandean pipe, three or four violins, and the kobſa,—a kind of lute, a ſpecimen of which is in this collection. Beſides the airs of the popular ſongs the *lautari* generally perform ſpirited dance tunes, and of theſe principally the *hora*, the national dance of Roumania, of which they have ſeveral beautiful compoſitions.

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961. '69.

MOUNTAIN Horn. Wood bound with braſs. *Roumanian.* Modern. L. 7 ft. 11 in. (Bought, Paris Exhibition, 1867, 16*s*.)

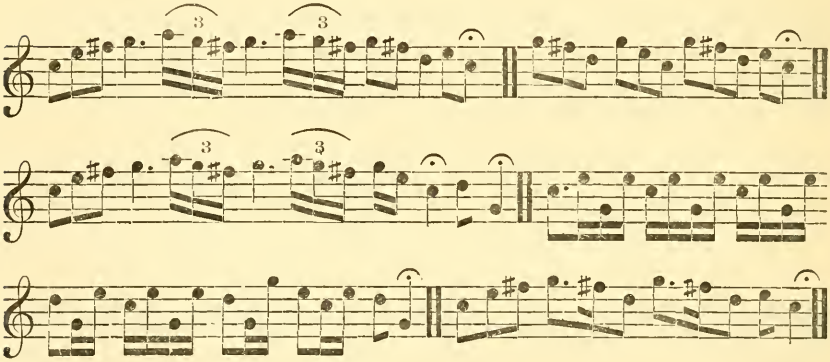
Horns, or rather trumpets, of this deſcription are to be found in many countries, eſpecially in mountainous diſtricts, where they

are uſed by the herdſmen to convey ſignals, and to beguile their monotonous hours of leiſure. The Swedes have an inſtrument of this kind, called *lure*. The *alp-horn* of the Swiſs is known to many Engliſh travellers on the Continent. Herr van Hügel ('Kaſchmir und das Reich der Siek,' Stuttgart, 1840) relates that in the north of Hinduſtan, eſpecially in the Himalaya mountains, the herdſmen conſtruct a long trumpet from the *Lilium giganteum*. A ſtalk of this plant, meaſured by him, was nine feet in length. The ſounds produced by the Hindus on this tube reminded the traveller of the *alp-horn* of Switzerland. Alſo the Indians in ſome parts of South America conſtruct a ſimilar inſtrument.

962. '69.

MOUNTAIN Horn. Wood bound with braſs. *Roumanian.* Modern. L. 7 ft. 5 in. (Bought, Paris Exhibition, 1867, 16*s*.)

The Mountain Horn of Roumania and Tranſylvania is almoſt identical in ſhape with the ſlightly-curved alp-horn of the Swiſs in the Berneſe Oberland. The compaſs of ſound is made the ſame as that of our ſimple trumpet. On this inſtrument as well as on the horn the upper *f* is neither exactly *f-natural* nor *f-ſharp*, for it is too high for the former and too low for the latter. Thus, in the following ſtrains, which the Swiſs are in the habit of blowing on the *alp-horn*, the notes marked with a *ſharp* ſound in reality as an interval between *f* and *f-ſharp*.



The ſtrains blown by the Wallachian herdſmen on their mountain horn are ſimilar to thoſe blown by the Swiſs on the alp-horn, owing to the natural tones of the inſtruments.

958. '69.

KOBSA. A kind of lute. Wood painted. Ten ſtrings, of which nine are of catgut, and one of ſilk covered with thin wire. With a plectrum conſiſting of a quill ornamented with ſilken taſſels. *Roumanian.* Modern. L. 21 in., W. 11 in., depth of the body, $8\frac{3}{8}$ in. (Bought, Paris Exhibition, 1867, 12*s.*)

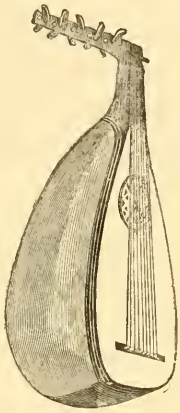


Fig. 124.—KOBSA.

A ſpecies of *kobſa* with eight ſtrings is an old popular inſtrument of the Ruſſians. Likewiſe the Poles had formerly a *kobſa* (or *kobza*). It was made of cornel wood, and had only three ſtrings. When the famous warrior Prince Korecki of Poland was made priſoner by the Turks, about A.D. 1600, he, on entering Conſtantinople with his followers, played upon the *kobſa*, to conſole his companions in misfortune, and to ſuſtain his ſelf-poſſeſſion. And for a long time afterwards the Poles had the ſaying "As brave as Korecki."

960. '69.

SYRINX. Wood painted. Containing 25 tubes arranged in a curve. *Roumanian.* Modern. $12\frac{1}{4}$ in. by $10\frac{3}{4}$ in. (Bought, Paris Exhibition, 1867, 8*s.*)

The *Syrinx*, or *Pandean pipe*, is ſo univerſally diffuſed that it would be eaſier to name the countries in which it is not to be found than

thoſe in which it is common. The preſent ſpecimen from Roumania differs from moſt others with reſpect to ſhape; the tubes are generally fixed together in a ſtraight line inſtead of in a curve. The *ſyrinx* was known to the American Indians before our diſcovery of the Weſtern Hemiſphere. Well-preſerved ſpecimens have been found in tombs of the Inca Peruvians. It is probably the *ugab* of the Hebrews mentioned in the Old Teſtament. At any rate, it deſerves to be claſſed with the moſt ancient wind-inſtruments ſtill in uſe.

963. '69.

DUTKA. Bagpipe, in four parts. The woodwork inlaid with metal, and ornamented with various coloured fringes and ſpangles. *Roumanian.* Modern. L. 2 ft. 4 in. (Bought, Paris Exhibition, 1867, 1*l.* 8*s.*)

965. '69.

DUTKA. Bagpipe, in three parts. The woodwork inlaid with lead. *Roumanian.* Modern. L. 21½ in. (Bought, Paris Exhibition, 1867, 2*s.* 10*d.*)

966. '69.

DUTKA. Bagpipe, ornamented with beads and taſſels. *Roumanian.* Modern. L. 2 ft. 10 in. (Bought, Paris Exhibition, 1867, 2*s.* 10*d.*)

967. '69.

FLAGEOLET. Made of wood. Six finger-holes. *Roumanian.* Modern. L. 14½ in. (Bought, Paris Exhibition, 1867, 10*d.*)

964. '69.

FLUTE. In three pieces. Stained wood bound with ivory; the finger-holes encircled with red colour. *Roumanian.* Modern. L. 2 ft. 5½ in. (Bought, Paris Exhibition, 1867, 8*s.*)

968. '69.

SZOPELKA. A kind of hautboy, or Eaſtern *zourna*, with a braſs tube for the mouth-piece, and fifteen finger-holes, ſeven of which are ſmaller than the others. *Roumanian.* Modern. L. 15 in. (Bought, Paris Exhibition, 1867, 10*d.*)

The *ſzopelka* is alſo a popular inſtrument in Southern Ruſſia, where it is generally made of elder wood.

959. '69.

TAMBOURINE. The frame is of wood bound with braſs. Six pairs of metal plates, and four pairs of little ſleigh-bells are looſely attached to the rim. *Roumanian.* Modern. Diam. 16¼ in., H. 2¾ in. (Bought, Paris Exhibition, 1867, 1*l.*)

MUSICAL INSTRUMENTS,

MOSTLY ANTIQUATED, OF EUROPEAN COUNTRIES.

THERE prevails among muſical antiquities a conſiderable diverſity of opinion as to the exact nature of ſeveral of the muſical inſtruments formerly in uſe in England and on the continent of Weſtern Europe. One writer deſcribes a certain inſtrument as a drum which another is ſure was a bagpipe, and of which a third has not the leaſt doubt that it could have been nothing elſe but a fiddle. This confuſion is owing, it would appear, chiefly to the following cauſe.

It happened not unfrequently in olden time,—as is alſo ſometime the caſe in our day,—that when a muſical inſtrument fell into diſuſe, its name was applied to another of a later invention, though perhaps very different in conſtruction from the former. The pſalterium, for inſtance, depicted in old manuſcripts of the Middle Ages, was a ſmall kind of harp; but in the courſe of time its name was transferred to a kind of dulcimer, the conſtruction of which may have been partly ſuggeſted by its old nameſake. The *rote*, likewiſe an inſtrument of the Middle Ages, is by ſome writers deſcribed as a kind of guitar; while others aſſert it to have been a hurdy-gurdy (alſo called by old writers *lyra mendicorum*), and to have derived its name from its being conſtructed with a wheel (*rota*). Very probably both ſtatements are correct. The French gave the name of *vielle* to the hurdy-gurdy as well as to the viol,—moſt likely on account of ſome reſemblance in the outward appearance of the two inſtruments. Inſtances in which two inſtruments of different conſtruction are named alike, merely becauſe they are ſimilar in ſhape, occur even in the preſent century. Thus, the German name of the harpſichord, *Flügel*, is now applied to the grand piano, the mechaniſm of which is totally different from that of the harpſichord. Sometimes the manner of producing the ſounds was

evidently the cauſe of the ſame name being given to inſtruments of a different claſs. Thus, the *timpanon*, an antiquated ſtringed inſtrument of the Italians, and the *timpani*, or kettle drums, have nothing in common except that they are vibrated by means of ſticks having a knob at one end. The word *cimbal* is uſed, as has already been ſtated, by ſome nations for the dulcimer, which is beaten like moſt inſtruments of percuſſion, whilſt *cymbals* are inſtruments of metal employed in our orcheſtra, and eſpecially in our military bands; the Italians giving the name of *cimbalo* alſo to the tambourine, or Tambour de Baſque.

Beſides, it was evidently in former times a uſual practice with inſtrument makers, whenever they introduced ſome ſlight alteration in a popular inſtrument, to give their fabrication a new name, often ſelected with much more regard to buſineſs than to art and truth. Thus, we have many names, ſuch as *clavicytherium*, *virginal*, *octavina*, *harpſichord*, *ſpinet*, *clavicymbal*, *gravicymbalum*,—all applying to inſtruments almoſt exactly alike in conſtruction, the difference being chiefly in their ſhape.

As another ſource of confuſion may be noticed the cuſtom in vogue ſome centuries ago of conſtructing moſt kinds of wind and ſtringed inſtruments in ſets of four, in order to make them correſpond with the four human voices, treble, alto, tenor, and baſs. Thus, there were four flutes, differing greatly in ſize, compaſs, and outward appearance. The ſame was the caſe with inſtruments of the violin claſs; theſe are not unfrequently mentioned by old writers as thus conſtituting "a cheſt of viols."

Theſe facts muſt not be loſt ſight of in an examination of any antiquated muſical inſtrument preſerved from paſt centuries; otherwiſe the reſult is likely to be perplexing if compared with a deſcription of a ſpecimen bearing the ſame name, which is given in ſome old book. Moreover, it is alſo evident that former writers occaſionally noticed an inſtrument by a wrong name, juſt as it ſometimes happens at the preſent day even with very intelligent writers.

The moſt effectual means of diſpelling the apparent contradictions and diſcrepancies alluded to, is afforded by a collection of the actual inſtruments, like that here exhibited. In order to facilitate this object, ſome modern inſtruments are noticed in the following liſt with the obſolete ones of which they bear the names, or of which they are the offſpring.

1650–1650 *c*. '71.

WHISTLES. Four. Glazed earthenware, blue and yellow, in ſhape of jars. *Auſtrian* (*Znaim in Moravia*). Various dimenſions. From the Annual International Exhibition, 1871. (Given by Franz Slowak, Eſq.)

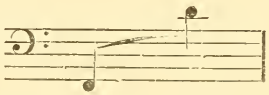
105–105 *g*. '71.

WHISTLES. Eight. Earthenware, ſix glazed and two unglazed, in form of horſemen, &c. *Spaniſh* (*Andujar*). 1870. Various dimenſions. (Bought, 1*s*. 2*d*.)

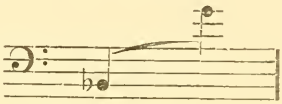
7469. '61.

FLAUTO Dolce. Flute. Ivory, decorated with foliage carved in low relief. *Italian*. Signed and dated, "Anciuti a Milan, 1740." L. 1 ft. 6½ in. (Bought, 1*l*. 4*s*. 2*d*.)

The *Flauto dolce* (French *flûte douce*, and *flûte à bec*), much in uſe ſome centuries ago, was made of various lengths. The Germans called it *plochflöte*, i.e. a flute with a plug in the mouth-hole. That which emitted the deepeſt tones, or the Baſs Flute, had the following compaſs :—

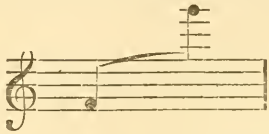


The Tenor Flute had this compaſs :—



The Baſs Flute was of ſo great a length that, in order to enable the performer to reach the finger-holes, a bent tube was affixed to the mouth-hole, ſomewhat ſimilar to that of the baſſoon. The moſt

common *flûte à bec* was made with ſix finger-holes, and its compaſs embraced ſomewhat more than two octaves, thus :—



Several of the finger-holes required to be only partly covered in order to produce the deſired tone. There was often a key on this inſtrument in addition to the finger-holes. This flute was much in favour in England ; hence it was called in France "Flûte d'Angleterre." It has gradually been ſupplanted by the "Flûte traverſière," or "German Flute." The *flageolet*, the ſmalleſt *flûte à bec*, was formerly played in England even by ladies. Pepys, in his Diary (March 1ſt, 1666), records :—"Being returned home, I find Greeting, the flageolet-maſter, come, and teaching my wife ; and I do think my wife will take pleaſure in it, and it will be eaſy for her, and pleaſant."

The flageolet was made of various ſizes. Pepys (Diary, January 20th, 1667) records :—"To Drumbleby's, the pipe-maker, there to adviſe about the making of a flageolet to go low and ſoft ; and he do ſhow me a way which do do, and alſo a faſhion of having two pipes of the ſame note faſtened together, ſo as I can play on one and then echo it upon the other, which is mighty pretty."

1124. '69.

FLAUTO Dolce, or Flûte à bec. Tortoiſe ſhell, inlaid with gold piqué. *Italian.* 17th century. From the collection of the compoſer Roſſini. L. 1 ft. 8 in. (Bought, 24*l.*)

1127. '69.

OBOE. Carved ivory. Made by Anciuti, of Milan. *Italian.* 18th century. This inſtrument was formerly in the poſſeſſion of the compoſer Roſſini. L. 1 ft. 9½ in. (Bought, 40*l.*)

The moſt noteworthy kinds of the hautboy at the time of Handel and Sebaſtian Bach are,—the *oboe da caccia*, which is identical with the *Corno Ingleſe* (*Engliſh horn*, *Cor Anglais*), a large hautboy ſtill occaſionally employed in the orcheſtra, and the *oboe d'amore*, or *oboe luongo*, which has fallen into oblivion. The pitch of the *oboe d'amore* was a minor

third lower than that of the common hautboy, or *oboe piccolo ;* and its ſound, owing to the narrowneſs of the bore at its further end, was rather weak, but particularly ſweet.

808. '69.

OBOE. Old ſpecies of hautboy. Boxwood, carved with a deſign of figures and foliage. Ten finger holes and three keys ; ſome of the finger-holes are placed ſide by ſide in pairs. On the tube is ſtamped the German name "W. Beuker." *Italian.* 17th century. L. 1 ft. 10¾ in. (Bought, Paris Exhibition, 1867, 12*l.*)

The precurſor of this inſtrument was evidently the *bombardino*, or *chalumeau.* The *bombardino*, alſo called in Italian *bombardo piccolo*, was a ſmall *bombardo*, an inſtrument of the hautboy kind, about three centuries ago much in uſe on the continent.

The Germans called the *bombardo* "Pommer," which appears to be a corruption of the Italian name. The *bombardo* was made of various ſizes, and with a greater or ſmaller number of finger-holes and keys. That which produced the baſs tones was ſometimes of an enormous length, and was blown through a bent tube, like the baſſoon, the invention of which it is ſaid to have ſuggeſted.

The ſmalleſt inſtrument of this kind, called *chalumeau* (from *calamus*, "a reed"), is ſtill occaſionally to be found among the peaſantry in the Tyrol and ſome other parts of the Continent. The Germans call it *ſchalmey*, and the Italians *piffero paſtorale.* In England it was formerly called *ſhawm* or *ſhalm.*

The *hautboy*, which is an offſpring of the *chalumeau* called *bombardino*, came into more general uſe about the year 1720.

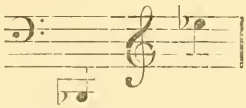
The *clarinet*, likewiſe an inſtrument of this claſs, is ſaid to have been invented by Denner, in Nürnberg, about the year 1700. The clarinet has only a ſingle vibrating reed in the mouth-piece ; the hautboy has a double one.

637. '72.

BASSOON, ſpecies of. Bound with braſs, with braſs keys, and complete with mouth-piece and reed of the period. *Engliſh.* Late 18th or early 19th century. L. 4 ft. ½ in. (Given by Mr. T. Cabban.)

The invention of the *baſſoon* (Italian, *fagotto;* French, *baſſon;* German, *fagott*) is aſcribed to Afranio, a canon of Ferrara, who conſtructed the firſt in the year 1539. The inſtrument was, however, an improved *bombardo* rather than a new invention. As early as the year 1550, the celebrated wind-inſtrument maker Schnitzer, in Nürnberg, manufactured baſſoons which were conſidered as very complete.

Various baſſoons of ſmall dimenſions in uſe about two centuries ago, and earlier (the *dolciano*, *quartfagott*, *quintfagott*, *tenor-baſſoon*, *corthol*, &c.), are now antiquated. The compaſs of our preſent common baſſoon extends above three octaves, thus :—



The largeſt ſpecies, called double-baſſoon (*contra-fagotto*) ſounds an octave lower than the common one; it, therefore, extends a fourth lower than the four-ſtringed double-baſs, and is, in fact, the deepeſt-toned inſtrument in our orcheſtra. Beethoven has employed the double-baſſoon effectively in the famous duet of Leonore and Rocco digging the grave of Floreſtan, in his opera Fidelio; likewiſe in his C-minor and Choral ſymphonies.

In the liſt of muſical inſtruments of Sir Thomas Kytſon, of Hengrave Hall, about the year 1600, recorded in the 'Hiſtory and Antiquities of Hengrave, Suffolk,' by John Gage, London, 1822, is mentioned "A Curtall," which was probably the *corthol* or French *courtaut*, an early kind of baſſoon, a ſpecimen of which, dating from the fifteenth century, is preſerved in the Conſervatoire de Muſique at Paris. According to Prætorius (anno 1619) the *fagotto piccolo*, a ſmall ſpecies of baſſoon, was called in England *ſingle corthol.*

7953. '62.

OLIPHANT. Ivory. Carved with interlaced ornament, containing beaſts and birds. *Byzantine.* 11th century. L. 2 ft. 1 in., diam. 5½ in. (Bought, Soltikoff Collection, 193*l.*)

The *oliphant* was uſed in the Middle Ages by the knights for conveying ſignals in war and in the chaſe; and by the warders of caſtles for announcing the arrival of ſtrangers of diſtinction, or for giving the

alarm in cafe of danger. It was, befides, not unfrequently made ufe of as a drinking veffel at feafts; and, probably for this reafon chiefly, it was often richly ornamented with precious metals and elaborate carvings. The *oliphant* evidently derived its name from the circumftance of its being very ufually made of ivory; at all events, the elephant is called by old writers *olifaunt*, *ollivant*, and *olyfaunce*. As regards the cuftom of ufing mufical horns as drinking veffels on feftive occafions, we find in Brand's 'Popular Antiquities' that it formerly prevailed in England on the firft of May.

7954. '62.

OLIPHANT. Ivory. Carved with foliage and hunting fubjects; mounted in filver. *German.* 15th century. L. 2 ft. 2 in., diam. 5 in. (Bought, Soltikoff Collection, 265*l.*) (See the engraving, Fig. 125.)

Fig. 125.—OLIPHANT.

8035. '62.

OLIPHANT. Ivory. Plain furface encircled by two raifed bands carved with figures of men and animals in low relief. *Byzantine.* 11th century. L. 1 ft. 9 in., diam. 4½ in. (Bought, 35*l.*)

1274. '72.

HUNTING Horn. Ivory; curved, with two filver bands and rings, and a brafs wire chain for fufpenfion. *German.* Early 18th century. L. between extremities 8½ in. (Bought, 10*s.*)

1255. '72.

HUNTING Horn. Ebony; ſtraight, carved in relief with dogs chaſing deer, and with foliage. On one ſide is a gilt cruciform plate with remains of a ring for ſuſpenſion. *German.* 17th century. L. $11\frac{7}{8}$ in., greateſt Diam. $1\frac{3}{8}$ in. (Bought, 2*l.*)

1602. '55.

HUNTING Horn. Iron. Emboſſed with ſcroll foliage. *German.* 16th century. L. 12 in. Alſo an electrotype reproduction of the ſame by Meſſrs. Franchi and Son.

'57. 16.

HUNTING Horn. Semicircular, with two gilt mounts ornamented with arabeſques in relief. Electrotype reproduction, by Meſſrs. Franchi and Son, from the original, in ivory, in the poſſeſſion of A. Fountaine, Eſq. *Italian.* 16th century. Diam. 15 in.

810. '72.

FORESTER'S Horn. Copper, with braſs bell and horn mouth-piece. Leathern ſtraps attached. *Engliſh.* 17th century. L. 40 in. (Given by G. Moffat, Eſq.)

1123. '69.

CORNETTO Curvo. Ivory. Six finger-holes on one ſide; and a ſeventh, for the thumb of the left hand, on the oppoſite ſide. *Italian.* 16th century. L. 1 ft. $9\frac{1}{2}$ in. (Bought, 10*l.*)

The *cornetto curvo* (German *zinken*, French *cornet à bouquin*) was generally made of wood covered with black leather. Its compaſs uſually compriſed fifteen tones, the loweſt of which was—

There were, however, in uſe inſtruments of this kind of various ſizes. The preſent ſpecimen is one of the ſmaller kinds. In Germany the *zinken* was ſtill employed in the beginning of the eighteenth century by the town bands in playing chorales, on certain occaſions, on the tower of the pariſh church.

73. '65.

CORNET à Bouquin. (Italian, *cornetto curvo.*) Ivory carved on one ſide in low relief with cupids engaged in hunting. On this ſide is a finger-hole for the thumb. On the oppoſite ſide are ſix finger-holes. *French.* About 1550. L. 1 ft. 1½ in. (Bought, Pourtales Collection, 42*l.*) (See Fig. 126.)

Fig. 126.—Cornet à Bouquin.

Although the *zinken* is blown through a mouth-tube ſomewhat ſimilar to that of the trumpet, it has finger-holes like a flute. Its ſound is harſh, and would be unpleaſant in a room, but the *zinken* was intended for the open air, and for performing chorales on the towers of churches, ſo that all the people in the town could hear the ſolemn muſic. They were, in fact, compelled to hear, for it vibrated through the air over their heads like the church bells themſelves. Thus the *zinken* may have ſerved its purpoſe well in olden time, notwithſtanding its harſhneſs of ſound.

394. '71.

MUSETTE. A bagpipe. Velvet bag with ſilk trimmings, the pipes of ivory with white metal keys. *French.* 18th century. L. of bag 23 in., L. of longeſt pipe 11½ in. (Bought, 10*l.*)

A little pair of bellows belonging to this bagpipe is wanting.

According to Merſenne, who lived in the beginning of the ſeventeenth century, the *muſette* had at his time attained to a ſomewhat high degree of perfection in France, and the ſweetneſs of its ſound is warmly commended by him. He gives a drawing of a *muſette* with only one chanter, which had apertures for twelve tones, beſides ſome double apertures, and valves opened by keys. The *muſette*, as it was conſtructed in France more than a century ago, conſiſts of a bag made of ſheep's ſkin, of two chanters (French, *chalumeaux*), which are of different lengths, and are ſupplied with keys; of a drone (French, *bourdon*) with ſeveral reeds; and of a pair of bellows. The moſt remarkable part is the *bourdon*. It is, properly ſpeaking, a combination of four drones, ſince four reeds are contained in a barrel. The French had, about two or three centuries ago, another bagpipe provided with bellows. This inſtrument, which was called *loure*, and of which but little is known, may have been a *muſette* of a more ſimple conſtruction than that juſt deſcribed. The names *loure* and *muſette* were alſo given to French dances uſually performed to the muſic of the bagpipes. Handel and Sebaſtian Bach have written ſome very fine compoſitions in imitation of theſe dance tunes. In the baſs accompaniment the tonic, or the dominant, is generally ſuſtained during the extent of a muſical phraſe, to imitate the effect of a drone.

The brothers Chedeville are conſidered as the moſt diſtinguiſhed players on the *muſette* which France has poſſeſſed. The elder brother, Eſprit-Philippe Chedeville, was engaged in the year 1725 at the Opera in Paris as 'Joueur de Muſette.' He, as well as his younger brother, Nicolas Chedeville, publiſhed ſeveral compoſitions for bagpipes and hurdy-gurdies.

Another bagpipe with bellows, the *ſourdeline*, which was uſed in France about three centuries ago, is, according to Merſenne, of Italian origin. The Italians call it *ſurdelina*, and it was formerly popular, eſpecially in Naples.

GLASS Harmonica. Modern. Made by E. Pohl, in *Bohemia.* L. 4 ft. 1 in., H. 3 ft. (Bought, 15*l.* 15*s.*) Depoſited in the Educational Department.

The Glaſs Harmonica conſiſts of a ſeries of glaſs bells, which are affixed in regular order to an iron ſpindle lying horizontally in a caſe, and which by ſimple machinery are ſet in motion by the feet. The ſound is produced by the performer moiſtening his fingers and preſſing them on the bells while theſe are rotating.

The Glaſs Harmonica is an invention of Benjamin Franklin, the celebrated American. It ſuggeſted itſelf to him while witneſſing an Iriſhman performing on a ſet of drinking glaſſes in ſome tavern. In a letter of his to Padre Beccaria, in Turin, dated July 13th, 1762, which contains a detailed account of his invention, and which has been publiſhed in the collection of his works, he ſays :—"In honour of your muſical language I have borrowed from it the name of this inſtrument, calling it *Armonica.*" Franklin preſented his invention to a muſical family of the name of Davies, with whom he was related. Miſs Marianne Davies performed on the inſtrument at public concerts in London, Paris, Vienna, and Florence, and the faſcinating purity of the ſound, as well as her ſkilful execution, were greatly admired. However, the conſtant practice ſo much weakened her nerves, that ſhe was, after ſome years, compelled to relinquiſh the cultivation of muſic altogether. Alſo the German compoſer Naumann, an enthuſiaſtic admirer of the Glaſs Harmonica, found it neceſſary to reſtrict himſelf in practiſing it, on account of its injurious effect upon the nerves.

Various attempts have been made further to improve Franklin's invention. Thus, it has been provided with a bow, in order to obtain the ſound by friction, as on the violin ; and alſo with little pegs having at the end a ſmall pad formed of ſponge, and with a key-board like the pianoforte. But none of theſe expedients have proved ſo effective as the original method of vibrating the glaſſes with the moiſtened fingers ; at leaſt, this is declared by moſt judges to be the beſt means of modifying the ſound for various degrees of loudneſs and expreſſion.

Soon after its invention the Glaſs Harmonica appears to have produced ſome ſenſation in faſhionable circles in London ; for in the 'Vicar of Wakefield,' written in the year 1761, Dr. Primroſe, relating the viſit of the two fine ladies from town, ſays, "The two ladies threw my girls quite into the ſhade ; for they would talk of nothing but high life, and high-lived company, with other faſhionable topics, ſuch as pictures, taſte, Shakeſpeare, and the muſical glaſſes."

220. '66.

VIELLE. (Engliſh, *hurdy-gurdy*; German, *leyer* or *bauern-leyer*; Italian, *lira ruſtica*, or *lira tedeſca.*) Wood, lacquered and decorated, in black outlines and occaſional colour, with hunting ſcenes and arabeſques; alſo with the arms of France, and crowned monogram of Henri II. on back and front. Ten keys and ſix tuning-pegs. The key-board and keys of ebony and ivory; near the handle are monograms of Catharine de' Medicis. *French.* About 1550. L., including handle, 1 ft. 10½ in., W. 8¼ in. (Bought, 127*l.*) (See Fig. 127.)

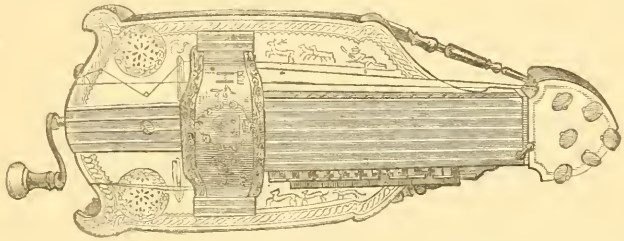


Fig. 127.—VIELLE.

95. '70.

VIELLE. A hurdy-gurdy. Inlaid with tortoiſe-ſhell and gold piqué work, and ſet with paſtes. The handle formed of a female figure of carved ivory and wood. *French.* 18th century. L. 21¾ in., W. 5½ in. Bought, 31*l.* 10*s.*

364. '64.

VIELLE. Hurdy-gurdy. Dark wood, with foliated ornament in low relief; ten keys and five pegs. *French.* About 1680. L., including handle, 1 ft. 8 in., W. 6¾ in. (Bought, 8*l.*)

The hurdy-gurdy is ſtill in uſe, eſpecially among the itinerant Savoyards, who perform in the ſtreets of London and Paris. Its ſound

is produced by friction, caufed by a wheel againft catgut ftrings ; and it is played by means of a key-board. Of the *organiftrum*, a large kind of hurdy-gurdy, a reprefentation is given, page 103 (Fig. 86), derived from a manufcript of the ninth century. The *organiftrum* had three ftrings, producing three different tones, which appear to have confifted of the tonic, fifth, and octave. Thefe three intervals founded fimultaneoufly. However painful a fucceffion of thefe combined tones may appear to us, it is well known that at the time of Hucbald, A.D. 900, it was admired. If a conclufion may be drawn from fuch hiftorical facts, it feems not at all improbable that there may come a time when many of the harmonious contrivances admired at the prefent day will be found as objectionable as we now find thofe confecutive fifths and octaves of Hucbald. Only expreffive melody remains always beautiful, for it is natural, direct from the heart, and therefore eternally true.

577. '72.

VIELLE. Hurdy-gurdy. Wood, with marquetry of plain and coloured ivory and mother-of-pearl. The neck is diapered and terminates in a carved female head. Signed by Varquain of Paris, and dated 1742. *French.* 18th century. L. 26 in., W. 10. (Bought, 12*l.*)

About the middle of the eighteenth century the hurdy-gurdy was played at public concerts in Paris, and even ladies practifed it occafionally. Charles Baton, a diftinguifhed virtuofo on the hurdy-gurdy, extended its compafs to that of the flute, and introduced other improvements, of which he publifhed an account, in the year 1752, entitled 'Mémoire fur la Vielle en D-la-ré, dans lequel on rend compte des raifons qui ont engagé a la faire, et dont l'extrait a été préfenté à la reine.' Henri Baton, the celebrated virtuofo on the *mufette*, was an elder brother of Charles Baton.

The French made the hurdy-gurdy in the fhape of the lute as well as in that of the guitar. The *vielle en luth* has the fuller tone of the two ; however, a good *vielle en guitare* is confidered fweeter in tone.

The following titles of compofitions, now very fcarce, which were publifhed in Paris during the firft half of the eighteenth century, convey an idea of the former employment of the hurdy-gurdy in combination with other inftruments :—'Les Pantomimes Italiennes danfées à l'Academie Royale de Mufique ; mifes pour la Mufette, Vielle, Flûte traverfière et

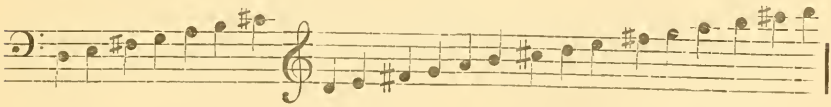
Hautbois, par Monſieur Chedeville, Cadet, Hautbois de la Chambre du Rois; Paris. Concerts Champêtres pour les Muſettes, Vièles, Fluttes, et Hautbois, avec la Baſſe; par Mr Chedeville l'Ainé, Hautbois de la Chambre du Roy, Paris. Deuxième Oeuvre de Mr Braun, contenant ſix Suites à deux Muzettes, qui conviennent aux Vieles, Flûtes à bec, Traverſières, et Hautbois; Paris, 1740. Trente-troiſième Oeuvre de Mr Boiſmortier, contenant ſix Gentilleſſes, en trois parties, pour la Muſette, la Viele, et la Baſſe; Paris, 1731. Huitiéme Oeuvre de Mr Naudot, contenant Six Fêtes Ruſtiques pour les Muſettes, Vieles, Flûtes, Hautbois et Violino, avec la Baſſe; Paris,' &c.

264. '66.

DULCIMER. The frame of wood, carved, gilt, and painted with an armorial ſhield in front. With twenty-ſix ſets of metal ſtrings. *Italian.* 17th century. Width of front, 2 ft. 8½ in., depth of ſide, 1 ft. 3¾ in. (Bought, 3*l.* 4*s.*)

Moſt of the ſets contain five ſtrings tuned in uniſon; thoſe which are the longeſt contain four ſtrings. Moſt of the ſtrings run over two bridges; the four ſhorteſt have only one bridge, which is placed in the middle. The inſtrument is played with two little hammers, like the *ſantir*, deſcribed at page 205. The Italians had formerly dulcimers of various kinds,—as for inſtance, the *ſalterio* (Engliſh *pſaltery* or *ſawtry*), the *citole*, the *timpanon*. The *ſalterio* was uſually played with *plectra* affixed to the fingers; but the Italians had alſo a *ſalterio tedeſco*, or "German dulcimer," which was played with two little hammers.

In England the dulcimer contained, even as late as the eighteenth century, only the intervals of the diatonic ſcale, extending to three octaves, thus:—



The Engliſh dulcimer was uſually mounted with about fifty ſtrings, moſt of the tones having two ſtrings tuned in uniſon. The German dulcimer, called *hackbret*, was tuned, about the end of the eighteenth century, according to the chromatic ſcale. The hammers were covered at one end with hard leather, and at the other end with ſoft leather, or

with felt. This contrivance enabled the performer to play effectively *forte* and *piano*. The dulcimer ſtill in uſe with the gipſies in Hungary and Tranſylvania is of the ſame conſtruction.

4. '69.

DULCIMER. Wood, painted and gilt. *Italian.* 17th century. Greateſt W. 2 ft. 10½ in., ſmalleſt W. 1 ft. 5 in. Oblique L. 1 ft. 4 in. (Bought, 20*l.*)

147. '69.

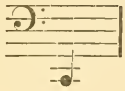
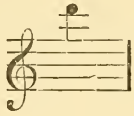
DULCIMER. *Italian.* 17th century. Greateſt W. 2 ft. 2½ in., ſmalleſt W. 1 ft. 1¾ in. Oblique L. 1 ft. 1½ in. (Bought, 2*l.* 10*s.*)

4087. '57.

HARP. Wood, carved and gilt in the ſtyle of Gouthière, and decorated with oak foliage and acorns; at the top of the pillar is a figure of a cupid. *French.* Period of Louis XVI. H. 5 ft. 3 in., W. 2 ft. 6 in. (Bought, 16*l.*)

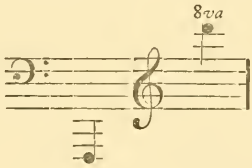
The ſmall harp of the middle ages of Central and Weſtern Europe, depicted in old ſculptures and paintings, generally exhibits the front-bar of its frame ſomewhat bent outwardly, much as is the caſe with the Iriſh *clarſeth*. Gradually the number of its ſtrings was increaſed; and, likewiſe the ſtrength of the frame for reſiſting the tenſion of the ſtrings. The front-bar of our harp is ſtraight, or a front-pillar. Until the ſeventeenth century only the diatonic ſeries of intervals was properly obtainable on the inſtrument. The performer had, however, a method of producing occaſionally a ſemitone by preſſing the finger againſt the ſtring towards the end, much in the ſame manner in which the Burmeſe produce chromatic intervals on the *ſoung*. Towards the end of the ſeventeenth century the Tyrolian harp makers adopted little plates with hooks, which could be moved ſo as to preſs upon the ſtrings, and there-

by ſhorten them, for the production of the ſemitones, more rapidly and unerringly than could be done by the fingers. The compaſs of the harp extended at that time to four octaves, generally—

From  to or 

The hooks were firſt introduced between the ſtrings *c-d*, *f-g*, and *g-a* ; which enabled the performer to obtain the tones *c-ſharp*, *d-ſharp*, *f-ſharp*, *g-ſharp*, and *a-ſharp*, or *d-flat*, *e-flat*, *g flat*, *a-flat*, and *b-flat*. This contrivance was gradually more perfected by placing a hook between every ſtring. The hooks could be regulated to enſure the diatonic ſcale of any major or minor key in which the piece to be performed was compoſed. But, if modulations occurred in the piece neceſſitating the introduction of another ſcale than that previouſly prepared, the hooks had to be re-arranged. As this had to be done in the courſe of a piece with the hands which were otherwiſe ſufficiently engaged, the procedure often proved troubleſome, and an interruption in the execution.

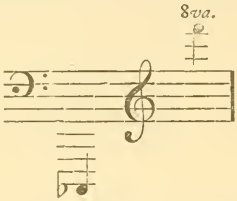
This inconvenience was, in great meaſure, obviated by the invention of the Pedal-Harp (German *Pedal-Harfe*), in the year 1720, by Hochbrucker, in Donauwörth, Bavaria. At the foot of the frame he attached five pedals, afterwards increaſed to ſeven, which, through the channel of the hollow front pillar, were connected with the mechaniſm at the top of the frame, by means of which the hooks are cauſed to touch the ſtrings. In Hochbrucker's pedal harp, each interval of the diatonic ſcale has a pedal, which, when uſed, raiſes it a ſemitone in all its octaves ſimultaneouſly. Thus, if the pedal which alters *f* into *f-ſharp* is uſed, it acts upon all the *f* ſtrings in the ſame way. The compaſs extends to five octaves and a ſixth, thus :—



Without the employment of the pedals the ſtrings give the diatonic ſcale of E-flat-major.

In the year 1810, Sébaſtien Erard, in Paris, greatly improved the pedal harp by his invention of the *double mouvement*, which enables the performer to raiſe each diatonic interval of C-flat-major, in which the

harp is tuned, either one or two ſemitones at pleaſure. Erard's Double-Action Harp embraces ſix octaves and a fourth, thus:—



The firſt action of the ſeven pedals ſucceſſively cauſes the ſcale of C-flat-major to be transformed into the ſcales of G-flat, D-flat, A-flat, E-flat, B-flat, F and C-major; and the ſecond action enſures the ſcales of G, D, A, E, B, F-ſharp, and C-ſharp-major.

4449. '58.

HARP. Wood, ſculptured with cupids, feſtoons, &c.; painted with arabeſques, and gilt. *French.* Period of Louis XVI. H. 5 ft. 3 in., W. 2 ft. 6 in. (Bought, 4*l.* 10*s.*)

8531. '63.

HARP. Wood, carved and gilt, the pillar decorated with wreaths of flowers and trophies of muſical inſtruments; at the foot two cocks, at the top a maſk ſurmounted by a terminal figure of a cupid. The ſounding-board painted with male and female figures reſting on clouds and playing on various muſical inſtruments. *French.* Period of Louis XVI. Said to have belonged to Queen Marie Antoinette. H. 5 ft. 5 in., W. 2 ft. 8 in. (Given by Sir Charles Wheatſtone.)

16. '71.

HARP. Wood; the pillar and top carved with flowers and feſtoons, the ſounding-board painted with landſcapes and trophies. *French.* About 1770–80. H. 5 ft. 3½ in., W. 2 ft. 6 in. (Given by Mrs. E. Richards.)

HARP.

French. [illegible]

1740. '66.

HARP. Carved work of faces, maſks, &c., by Grinling Gibbons. Stated to have belonged to Charles II. *Engliſh.* About 1670. L. of front pillar 6 ft. 3½ in., L. of body, 4 ft. 5 in. (Given by Meſſrs. Joſeph Kirkman and Son.)

'52. 11.

THE Harp of Brian Boiroimhe. (Plaſter caſt.) The original, of wood mounted with ſilver and ſet with cryſtals, is in the Muſeum of Trinity College, Dublin. Ancient *Iriſh.* H. 3 ft. 2 in., W. 1 ft. 7 in.

The inſtrument from which this caſt has been taken is of extraordinarily good workmanſhip. The ſounding-board is of oak, and the frame of red ſally. The extremity of the higheſt part of the frame in front is capped with ſilver finely wrought and chiſelled, and contains a large cryſtal ſet in ſilver, beneath which was another ſtone, now loſt. The ornamental knobs, or buttons, at the ſides of this part of the inſtrument are of ſilver. On the front pillar are the arms of the O'Brien families, chaſed in ſilver, viz., the bloody hand ſupported by lions. On the ſides of the front pillar, within two circles, are two Iriſh wolf dogs, cut in wood. The holes in the ſounding-board, into which the ſtrings enter, are neatly ornamented with eſcutcheons of braſs carved and gilt. The large ſounding-holes have been ornamented, probably with ſilver, as the ornaments have been abſtracted. The foot-piece is broken off, and the parts to which it was joined are much decayed. The inſtrument has twenty-nine ſtrings.

The chief intereſt attached to this harp conſiſts in its having originally belonged, it is believed, to Brian Boiroimhe, the famous Iriſh monarch, who came to the throne in the year 1001, and who, having vanquiſhed the intruding Danes and Northmen, applied his energies to repairing the ravages committed by them, and in promoting the proſperity and ſocial improvement of his people. As he is known to have been greatly devoted to muſic, "Brian the Brave" is uſually depicted in the attitude of leaning on the harp.

As regards the inſtrument in queſtion, the following tradition has been tranſmitted to us :—

Brian Boiroimhe's harp, together with his crown and other regalia, was taken by Donagh, his ſon, to Rome (to which place Donagh fled

after having murdered his brother Teige), and prefented by him to the Pope, in order to obtain abfolution. Adrian the Fourth, a later Pope (by name Brakfpeare, and an Englifhman), alleged this circumftance as one of his principal titles to the fovereignty of Ireland, in his bull transferring that kingdom to King Henry the Second. Thefe treafures were depofited in the Vatican until Pope Leo X. fent the harp to King Henry the Eighth, with the title of Defender of the Faith, retaining the crown, which was of maffive gold. Henry the Eighth had the harp adopted in the national arms of Ireland, and reprefented on the Irifh coins. Setting, however, no particular value on Brian Boiroimhe's harp prefented to him by the Pope, he gave it to the firft Earl of Clanricarde, in whofe family it remained till the beginning of the eighteenth century, when it came by a lady of the De Burgh family into that of MacMahon, of Clonagh in the county of Clare. After the death of MacMahon it paffed into the poffeffion of Counfellor Macnamara, of Limerick; and finally, in 1782, it was prefented by the Right Hon. William Conyngham to Trinity College Mufeum, Dublin.

According to another tradition, this harp belonged originally to the illuftrious fept of O'Neil, who flourifhed in the fourteenth century.

The Irifh name for "harp" is *clarfeth*.

616. '72.

IRISH Harp (Clarfeth). Wood, of plain conftruction, with forty-one wire ftrings. *Old Irifh.* Date unknown. H. 4 ft. 4 in., W. 3 ft. 7 in. (Given by the Ven. Archdeacon Saurin.)

This intereftingin ftrument belonged formerly to a celebrated Irifh harper. A fimilar one, which is in the poffeffion of the Marquefs of Kildare, bears the date 1671.

Confidering the fcarcity of the old Irifh *clarfeth*, mention may be made of a fine fpecimen formerly in the collection of Irifh antiquities belonging to Thomas Crofton Croker, from which it was purchafed, in the year 1854, at an auction in London, by Thomas Bateman, Efq. It bears on its front the infcription, *Made by John Kelly for the Rev. Charles Bvnworth Baltdaniel, 1734.* At the contentions or meetings of the bards of Ireland, between the years 1730 and 1750, which were generally held at Bruree, county Limerick, the Rev. Charles Bunworth was five times chofen umpire, or prefident. Although this harp is not of high antiquity, it is an intereftingexample of the ancient form and

conſtruction, and likewiſe of the ancient manner of ornamenting the inſtrument. A wood engraving of it, from a drawing by Macliſe, is given in 'A Deſcriptive Catalogue of the Antiquities and Miſcellaneous Objects preſerved in the Muſeum of Thomas Bateman, at Lomberdale Houſe, Derbyſhire,' Bakewell, 1855. An account of the Iriſh harps depoſited in the Muſeum of Dublin is to be found in 'A Deſcriptive Catalogue of the Antiquities in the Muſeum of the Royal Iriſh Academy,' by W. R. Wilde, Dublin, 1863. The illuſtrations of the Iriſh harp in the works of Bunting and ſimilar writers may be ſuppoſed to be known to muſicians.

The number of ſtrings appears to have been greater on the older ſpecimens recorded than on the later ones. Prætorius, in his 'Syntagma muſicum,' &c., vol. ii., Wolfenbüttel, 1619, gives an illuſtration of the Iriſh harp, in which it is repreſented with forty-three ſtrings. He deſcribes the inſtrument as having a pleaſant reſonance, and being conſtructed with a conſiderable degree of ingenuity. The illuſtration exhibits the ſame ſhape, with the fore-bar bent outwards, which is ſhown in the preſent ſpecimen.

Some harps after the model of the old Iriſh *clarſeth*, which are painted and gilt, were made in Dublin in the beginning of the preſent century.

1125. '69.

LUTE. (Italian *liuto.*) Wood and ivory. The finger-board of marquetry of roſewood. The head ſtands at a right angle with the neck. It has twenty-one ſtrings, forming ten pairs, and a ſingle one, which is the higheſt ſtring. *Italian* (*Venice*). Beginning of the 17th century. H. 2 ft. 8 in., W. 1 ft. (Bought, 40*l.*)

The Eaſtern origin of the *lute* has already been noticed in the deſcription of the Egyptian *oud*, page 142.

The moſt noteworthy books of inſtruction for the lute are by Johannes Judenkunig, Vienna, 1523; Hans Gerle, Nürnberg, 1533; Adrien le Roy, Paris, 1551; Jean Baptiſte Beſardus, Cologne, 1603; François Campion, Paris, 1710; Erenſt Gottlieb Baron, Nürnberg, 1727. 'Muſick's Monument,' by Thomas Mace, London, 1676, contains inſtructions on the lute, theorbo, and viol, with engravings. The moſt popular Engliſh inſtruction book for the lute appears to have been a tranſlation of Le Roy's work, of which a copy preſerved in

the Britiſh Muſeum is entitled: 'A briefe and plaine Inſtruction to ſet all Muſicke of eight diuers tunes in Tableture for the Lute; with a briefe Inſtruction how to play on the Lute by Tablature, to conduct and diſpoſe thy hand vnto the Lute, with certaine eaſie leſſons for that purpoſe; and alſo a third Booke containing diuers new excellent tunes. All firſt written in French by Adrian Le Roy, and now tranſlated into Engliſh by F. Ks. [Kyngſton], Gentleman; London, 1574.' This work contains illuſtrations repreſenting the lute of the ſixteenth century, mounted with eleven ſtrings; viz., five pairs and the *chanterelle*. Another book on the lute, in the Britiſh Muſeum, is entitled: 'The Schoole of Mvſicke: wherin is tavght the perfect Method of trve fingering of the Lute, Pandora, Orpharion, and Viol da Gamba, with moſt infallible generall rules, both eaſie and delightfull. Alſo a Method how you may be your owne inſtructor for Prick-ſong, by the help of your Lute, without any other teacher: with leſſons of all ſorts for your further and better inſtruction, Newly compoſed by Thomas Robinſon, Luteniſt. London, 1603.' The book is written in the form of a dialogue between "Knight" and "Timothevs."

391. '71.

LUTE. Wood, painted, with carved head. Two ſound-holes with ornamental "roſes." *Italian.* About 1600; but the inſtrument has been altered, and the carved head has been added at a later date. L. 3 ft. $5\frac{1}{8}$ in., W. $14\frac{3}{4}$ in. (Bought, 6*l.*)

7756. '62.

THEORBO. A kind of lute. Marquetry of wood and ivory; the body in broad bands; the finger-board in arabeſques. Two ſets of ivory tuning-pegs, the lower ſet containing twelve, and the higher eight. *Italian* (*Venice*). 16th century. L. 3 ft. 6 in. (Bought, 8*l.*)

The name of this inſtrument (Italian, *tiorba;* French, *théorbe;* Engliſh, *theorbo* and *thiorba*) is, according to ſome accounts, derived from the name of its inventor, a Signor Tiorba. According to others it was invented by Bardella, an Italian, about the year 1600; others again attribute its invention to Hottemann, a German, who excelled as a performer on this inſtrument in France, about 1650. Probably all

theſe perſons merely introduced ſome improvements in this ſpecies of lute, which is of older date than has generally been ſuppoſed. Mace, in his 'Muſick's Monument,' London, 1676, ſays, "The Theorboe is no other than that which we call'd the Old Engliſh Lute." The Germans called it *Baſſlaute*, on account of its deep tones.

The *theorbo* differs from the lute chiefly in having two ſets of tuning pegs, the uppermoſt of which contains the pegs for eight baſs ſtrings, which are of conſiderable length and power. The *theorbo* was uſed, ſome centuries ago, for accompanying vocal muſic in the opera, as well as in ſacred compoſitions. In France it was much in favour during the reign of Louis XIV.

1126. '69.

THEORBO. Ebony and ivory, with inciſed landſcapes. It has two ſets of tuning-pegs, each ſet containing fourteen pegs. On the neck is the figure of a crown, and inſide the body is the inſcription—"*Matteo Sellas alla Corona, Venetia*, 1630." *Italian.* Firſt half of 17th century. L. 3 ft. 9½ in., W. 12⅝ in. (Bought, 40*l.*)

9. '71.

THEORBO. Ivory; the neck of ebony, the back of which is inlaid, and otherwiſe ornamented with ivory, and inſcribed, *Rauche in Chandos Street, London*, 1762. There are two ſets of tuning-pegs, numbering 10 and 14 reſpectively. *Engliſh.* 18th century. L. 4 ft. 1½ in., W. 14½ in. (Bought, 25*l.*)

7755. '62.

CHITARRONE. A theorbo. Wood, inlaid with ſtrips of ivory and plaques of mother-of-pearl. Two ſets of tuning pegs, the lower ſet containing twelve, and the higher, which is about two feet diſtant from the lower, eight. *Italian.* About 1600. L. 5 ft. 7 in. (Bought, 10*l.*)

The *chitarrone* is a theorbo with an extraordinarily long neck, by which the length of the eight baſs ſtrings is conſiderably increaſed. The largeſt inſtruments of this kind were made ſome centuries ago, in Rome. They were uſed in the theatre for accompanying the voice, before the Clavicembalo, or Harpſichord, was introduced for this purpoſe. The fineſt inſtruments of the lute kind were made in Italy, eſpecially at Bologna, Rome, Venice, and Padua. Many of the manufacturers in Italy were, however, foreigners. Evelyn, in his Diary (May 21, 1645), ſpeaking of Bologna, ſays, "This place has alſo been celebrated for lutes made by the old maſters, Mollen [Maler?], Hans Frey, and Nicholas Sconvelt, which were of extraordinary price; the workmen were chiefly Germans." One of the earlieſt and moſt celebrated of theſe makers was Lucas Maler (or "Laux Maler" as he inſcribed his name on his inſtruments). He lived at Bologna about 1415.

Other celebrated lute-makers were:—Ludwig Porgt, in Regenſburg, 1525. Hans Gerle, in Nürnberg, 1520. Hans Neuſiedler, in Nürnberg, 1550. Sebaſtian Rauſgler, about 1590. Bueckenberg or Buchenberg, in Rome, about 1610. Hans Fichthold, a German, whoſe place of abode is not known, about 1610; his lutes, the backs of which are made with narrow ſtrips of wood, in the Italian manner, were formerly much prized by connoiſſeurs. Paul Belami, in Paris, about 1612, probably an Italian. His lutes were highly valued. Joachim Tielke, in Hamburg, about 1600. Antonio Coſtaro in Rome, about 1615. Chriſtofilo Rochi in Padua, about 1620. Sebaſtian Rochi in Venice, about 1620. Clays von Pommerſbach, Cologne, probably during the ſixteenth century. Magnus Tieffenbrucker, Vendelino Tieffenbrucker, and Leonhard Tieffenbrucker, in Venice, during the ſixteenth century; their lutes were rather flat and long in body. Vendelino Venere, in Venice, ſixteenth century. Michael Hartung, in Padua, about 1620; he was a pupil of Leonhard Tieffenbrucker. Raphael Meſt, about 1630; a diſtinguiſhed pupil of Michael Hartung, in Padua. Johann Chriſtian Hoffmann, in Leipzig, about 1720; his lutes were exported to Holland and England. Martin Schott, in Prague, ſeventeenth century. Sebaſtian Rauch, in Prague, ſeventeenth century. Matthæus Hummel, in Nürnberg, ſeventeenth century. Schelle in Nürnberg, about 1700. His lutes were much valued, not only in Germany, but alſo in other European countries.

5989. '59.

CHITARRONE. A theorbo. Wood, inlaid with ebony, ivory, and coloured woods. Two ſets of wooden tuning-

pegs, the lower containing twelve, and the higher eight. The inſtrument had wire ſtrings. *Italian.* Inſcribed inſide "Andrea Taus in Siena, 1621." L. 5 ft. 4 in., W. 1 ft. 1½ in. (Bought, 2*l.*)

Bonanni, in his 'Cabinetto Armonico,' Rome, 1722, gives a drawing of a *chitarrone* which has a ſomewhat ſhort neck, and only two ſtrings; and he mentions it as an inſtrument of the Italian country-people. It appears therefore probable that the name *chitarrone* was applied to different inſtruments in different centuries; or that the conſtruction of the Romiſh *tiorba* called *chitarrone* was in ſome meaſure ſuggeſted by that of the two-ſtringed one. Several *chitarroni* were generally played together in operatic muſic. At the muſical performances in Florence, during the marriage feſtivities of the Grand Duke Don Ferdinando Medici with Madama Chriſtiana di Loreno, in the year 1589, the orcheſtra conſiſted of the following inſtruments:—

Leuti groſſi e piccoli.
Chitarroni.
Lire.
Archiviolata Lira.
Cetera.
Mandola.
Salterio.
Arpe.
Violino [alſo called Violina].
Sopranin di Viola.
Tenor di Viola.
Baſſo di Viola.
Sotto-Baſſo di Viola.
Viola baſtarda.
Traverſe.
Tromboni.
Cornetti.
Organo di pivette.

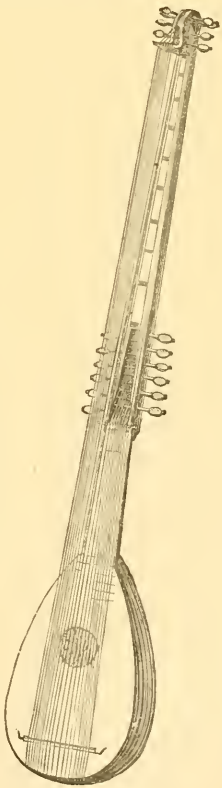


Fig. 128.—Chitarrone.

Another inſtance of the employment of the *chitarrone* in the orcheſtra is recorded in a liſt of the muſical inſtruments uſed in the performance of the opera of Orfeo, compoſed by Claudio Monteverde, in the year 1607. The orcheſtra conſiſted of: Duoi gravicembani; duoi contrabaſſi da viola; dieci viole da brazzo; un arpa doppia; duoi violini piccoli alla Franceſe; duoi chitarroni; duoi organi di legno; tre baſſi da gamba; quatro tromboni; un regale; duoi cornetti; un flautina alle vigeſima ſeconda; un clarino con tre trombe ſordine.

4274. '56.

ARCHLUTE. (Italian, *arciliuto;* French, *archiluth;* German, *erzlaute.*) Wood, inlaid with ivory and tortoiſe-ſhell, engraved. Two ſets of tuning-pegs, the lower containing fourteen, and the higher ten. On the middle of the neck is an

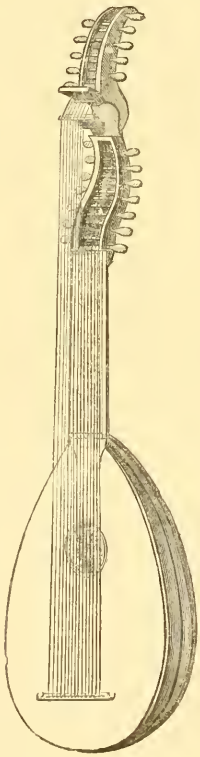


Fig. 129.—ARCHLUTE.

oval plate of mother-of-pearl, bearing the German inſcription, *Gott der Herr iſt Sonne und Schield* ("God, the Lord, is ſun and ſhield"). *German* (*Hamburg*). By Jacobus Heinrich Goldt. About 1700. L. 4 ft. 5 in., W. 1 ft. 2 in. (Bought, 8*l.*)

The *archlute* is a large theorbo with a peculiar arrangement of the ſtrings. Several of them were doubled, the additional ſtring being tuned an octave higher than the other. The proceſs of tuning ſuch inſtruments was evidently troubleſome and tedious. Mattheſon, the quaint contemporary of Handel, in his 'Das Neu-eröffnete Orcheſtre,' Hamburg, 1713, remarks:—"If a luteniſt attains the age of eighty, you may be ſure he has tuned ſixty years; and the worſt of it is that among a hundred players, eſpecially of the amateurs, ſcarcely two are capable of tuning with accuracy. Now there is ſomething amiſs with the ſtrings; now with the frets; and now again with the ſcrews; ſo that I have been told that in Paris it coſts as much money to keep a lute as to keep a horſe." Alſo Mace, an enthuſiaſtic admirer of the lute, teſtifies to the difficulty of keeping the inſtrument in proper condition; for his treatiſe on the lute and theorbo (contained in 'Muſick's Monument,' London, 1676) is replete with rules for ſtringing, tuning, cleaning, repairing, &c. And, as regards preſerving the inſtrument, he gives the advice—"You ſhall do well, ever when you lay it by in the day-time, to put it into a bed that is conſtantly uſed, between the rug and blanket."

1122. '69.

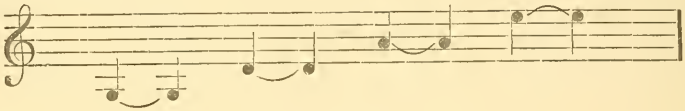
QUINTERNA, or Chiterna. Ornamented with tortoiſe-ſhell, mythological figures in ivory, and precious ſtones. Ten ſtrings of catgut, arranged in five pairs. On the ſide of the neck is the inſcription—"*Joachim Tielke in Hamburg*, 1539." *German.* Firſt half of 16th century. L. 2 ft. 1 in., W. 9½ in. (Bought, 30*l.*)

502. '68.

MANDOLINE. (Italian, *mandolino.*) Wood, ornamented with tortoiſe-ſhell and mother-of-pearl. Metal frets;

eight tuning-pegs. *Italian* (*Neapolitan*). Dated 1772. L. 1 ft. 7½ in., W. 5¾ in. (Bought, 7*l.* 7*s.*)

There ufed to be in Italy various kinds of mandolines, of which the Milanefe and the Neapolitan were the moft common. The firft-named had ufually ten ftrings, conftituting five pairs. The Neapolitan *mandolino* had eight ftrings, conftituting four pairs, each pair being tuned in unifon, as follows :—



The ftrings for the loweft tone, GG, were of catgut covered with filver wire; thofe for DD, were of brafs; thofe for AA, of fteel; and the higheft, for EE, of thin catgut. The ftrings were ufually twanged with a quill. Mozart, in his 'Don Giovanni,' has made ufe of the Neapolitan *mandolino* in the ferenade; but, as the inftrument has fallen into difufe, at leaft in moft countries except Italy, the part written for it by Mozart is now generally played on the violin, *pizzicato.* The *mandolino* is now often ftrung with catgut ftrings.

It refembles a diminutive lute; but its finger-board has metal frets, and its ftrings are faftened to little ivory pins at the end of the body, inftead of being looped through holes in the bridge. The convex back of the mandoline is deeper than that of the lute. It is one of the handfomeft mufical inftruments.

Fouchetti publifhed in Paris in the year 1770 a 'Méthode pour apprendre à jouer facilement de la mandoline à quatre ou à fix cordes.' Other inftruction books for the mandoline, now fcarce, are: Leone, 'Méthode raifonnée pour paffer du Violon à la Mandoline,' Paris, 1783. Denis, 'Méthode pour apprendre la Mandoline,' Paris, 1792. Bortolazzi, 'Anweifung die Mandoline von felbft zu erlernen,' Leipzig, 1805.

503. '68.

PANDURINA. Wood, with back of ivory and ebony, the neck terminating in a carved head. Twelve tuning-pegs; metal frets. The two loweft ftrings are covered with wire; the two next are of catgut, and the others are of metal. Two ftrings are always tuned in unifon. *Italian.* 17th century. L. 1 ft. 10 in., W. 6 in. (Bought, 4*l.* 15*s.*)

504. '68.

PANDURINA. Wood, the back and front inlaid with ivory and tortoiſe-ſhell. Seven tuning-pegs. A fine ſpecimen, but without ſtrings and frets. The frets were probably of catgut, as was often the caſe with inſtruments of the lute kind. *Italian.* 17th century. L. 1 ft. $7\frac{1}{4}$ in., W. $4\frac{3}{4}$ in. (Bought, 4*l.*)

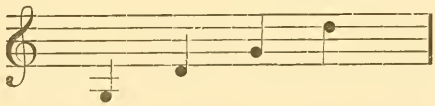
219. '66.

PANDURINA. Beechwood, carved with ſtrap and foliage work, having in the centre a group of Juno, Diana, and Venus; on the back of the neck is a Meduſa's head in relief. Seven tuning-pegs. *French.* About 1570. L. 1 ft. $4\frac{1}{2}$ in., W. $4\frac{1}{2}$ in. (Bought, 139*l.* 10*s.*)

7754. '62.

PANDURINA. Marquetry of wood and ivory in alternate bands. Twelve tuning-pegs. *Italian.* 16th century. L. 1 ft. 8 in., W. $5\frac{1}{2}$ in. (Bought, 3*l.*)

The Italians had various inſtruments of this kind, in ſhape reſembling the lute. Of this deſcription are, for inſtance, the *mandora*, *mandorina*, and *mandolino*. The *mandora* had uſually for each tone two ſtrings, which were of catgut and wire; and there were eight pairs of them. The *mandorina* had four wire ſtrings, uſually tuned as follows:—

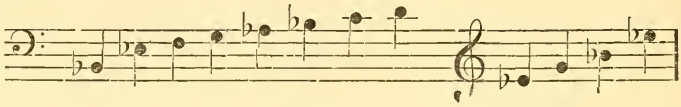


The *mandolino* has already been deſcribed. It differs from the *pandurina* chiefly in having a rounder and deeper body, and in having the tuning-pegs placed at the back of the head; while the *pandurina* has a ſort of ſcroll, with the tuning-pegs ſituated ſideways, ſimilar to the old Engliſh cither.

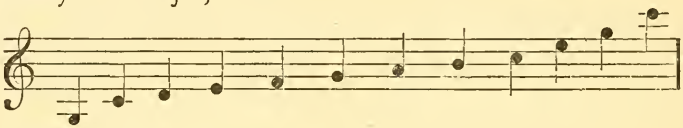
1737. '69.

HARP-LUTE. Wood, with ornamentation of painted flowers. *Engliſh.* About 1800. L. 2 ft. 8½ in., W. 1 ft. 1⅝ in. (Bought, 3*l.*)

The *harp-lute*, an invention of Edward Light, of London, about the year 1798, has twelve catgut ſtrings, which are tuned in the following order :—



This was their actual ſound ; but it was the cuſtom to write them in the key of C-major, thus :—



They, therefore, ſounded a major-ſixth lower than they were written. Some of the ſtrings were provided with movable ſtops, by means of which they could be raiſed a ſemitone at the pleaſure of the performer. The *harp-lute* was eſpecially intended for accompanying vocal muſic ; it has not, however, at any time been much in popular favour.

37, 37*a*. '73.

HARP-LUTE. Wood, varniſhed black and gilt. Twelve ſtrings, ten of which are of catgut, and two of ſilk covered with wire. Made by "Edward Light, Foley Place, London." In caſe. *Engliſh.* About 1800. H. 2 ft. 8¾ in., W. 13⅝ in. (Bought, 3*l.*)

In the year 1816, Edward Light took out a patent for a ſtringed inſtrument in ſhape and conſtruction ſimilar to the *harp-lute*, but having a finger-board for all the ſtrings. This improved *harp-lute* he called the *Britiſh harp-lute*, or the *Britiſh lute*. In the ſpecification defining the peculiarities of the *Britiſh lute*, the patentee aſſerts that "it is capable of performing any piece of muſic in different keys with more eaſe and correctneſs than is the common harp-lute." The moſt complete inſtrument of this kind, invented by Edward Light, was called

by him the *dital harp.* "Ditals, or thumb-keys," he ſays, "are certain pieces of mechaniſm, each of which, when preſſed upon, will produce the depreſſion of a ſtop-ring, or eye, which draws the ſtring of the harp-lute down upon a fret. . . . This mechaniſm has the property of holding the ſtring faſt in ſuch poſition as long as may be required after the preſſure of the finger or thumb is removed; or the preſſure may be removed in an inſtant by a touch of the thumb on the ſame button or key." The *harp-lute* has only a few of theſe ditals, while on the *dital harp* each ſtring is provided with one, which raiſes it a ſemitone.

201. '72.

DOUBLE HARP-GUITAR. In ſhape ſomewhat reſembling a harp. Roſewood and other woods. Conſtructed for two ſets of ſtrings, together 12, of catgut and of ſilk covered with wire. Made by John Frederick Groſjean, in London. *Engliſh.* About 1840. H. 2 ft. 11⅝ in., W. 16¼ in. (Bought, 2*l.* 12*s.* 6*d.*)

This inſtrument contains two finger-boards, each being ſtrung with ſix ſtrings, arranged like thoſe of the guitar. It exhibits one of the many unſucceſsful attempts to improve the guitar, or to render it more complete, which were made in the beginning of the preſent century when the guitar was ſtill in vogue. A ſimilar inſtrument with two finger-boards, and even with three, was made in the ſhape of the ancient lyre.

The *biſſex*, a ſort of double guitar, invented by Vanhecke, of Paris, and manufactured by the harp-maker Nadermann, Paris, about the year 1770, had two ſets of ſtrings, each ſet containing ſix ſtrings; hence its name *biſſex.* Only one ſet had a finger-board; the other ſet was placed near the finger-board, and therefore could only be uſed as open ſtrings. The compaſs embraced three octaves and a half. Vanhecke publiſhed an inſtruction book for the *biſſex.*

In the year 1837, J. F. Groſjean, a harp-maker in London, the manufacturer of the preſent *double harp-guitar*, took out a patent for a very ſingular invention for improving the quality of ſound of the harp, and "applicable to all other muſical ſtringed inſtruments." As this invention has been applied to the preſent inſtrument, the following account of it may be intereſting to muſicians: "My improvement," the inventor ſays, "conſiſts in applying vitrified or cryſtallized matters to ſounding-boards, and other ſurfaces of harps and other ſtringed inſtruments, whereby I am enabled to obtain greater fullneſs and richneſs

of tone to the ſame than when made according to the ordinary modes now in practice." Powdered glaſs ground very fine is ſifted evenly over the ſounding-board, which has previouſly been warmed and coated with cement, thus cauſing the ſounding-board "to reſemble a grotto with irregular cryſtallized ſurfaces, producing a very peculiar effect to the fulneſs and beauty of the ſound of the inſtruments ſo improved."

In the *double harp-guitar* under notice, the preparation alluded to is attached to the under ſide of the ſound-board, which may be ſeen through the ſound-hole near the bottom of the frame, and which has the appearance of being lined with ſand-paper. The ſonorouſneſs of the inſtrument ſufficiently proves that the ſtuff,—whatever may be its efficacy,—has at any rate the negative merit of not impairing the vibration of the ſound-board.

Several attempts have been made during the preſent century, in England as well as on the continent, to enſure a fine and full tone on ſtringed inſtruments by means of ſome extraneous application to the ſound-board; but it would not be eaſy to point out a more extraordinary expedient than that exhibited by the preſent *double harp-guitar*.

507. '68.

CASTANETS. Ebony. Modern. L. $2\frac{3}{4}$ in. (Bought, 3*s*.)

Inſtruments of the caſtanet claſs,—or *crotala*, as the ancients called them,—are ſo numerous and various that even a notice of the moſt remarkable ones would require much ſpace. Among European countries it is in Spain eſpecially that *caſtanets* are highly popular; and from thence evidently other European nations have adopted them, at any rate in the ſhape in which they are at preſent generally uſed. The name alſo is Spaniſh, and originated, it is ſuppoſed, from the inſtrument being made of the wood of the cheſtnut tree, *caſtaña*. It may, however, be obſerved that the Arabs have the word *Kas*, ſignifying "a vaſe," which they apply to certain inſtruments of the crotala ſpecies.

508. '68.

CASTANETS. Ebony. Modern. L. $2\frac{3}{4}$ in. (Bought, 3*s*.)

509. '68.

CASTANETS. Ivory. Modern. L. $2\frac{3}{4}$ in. (Bought, 3*s*.)

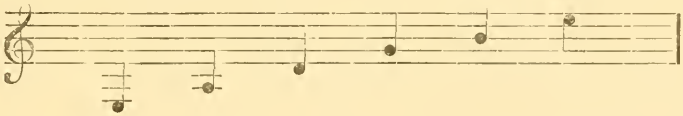
7356. '61.

GUITAR. (Spanish, *guitarra;* Italian, *chitarra;* French, *guitare.*) Wood, inlaid with marquetry of ivory, ebony, and mother-of-pearl. Metal frets. There are indications of its having been mounted with five sets of strings; four sets contained three strings each, and one set contained four strings, which were tuned in unison. *Italian.* About 1550. L. 2 ft. 11 in., W. 10½ in. (Bought, 6*l.*)

The *guitar* is evidently an importation from the East, but it has undergone various modifications since its adoption by European nations. It was an instrument of the Moors in Spain, and became known in France about the 11th century. The French called it formerly *guiterne*, and the English *gittern*, *ghittern*, and *gythorn.* At an early period it probably had the oval shape of the *kuitra*, still in use by the Arab musicians in Tunis and Algiers. In Spain it had formerly also the name of *vihuela.* An instruction book for this instrument, published at Salamanca in the year 1552, bears the title, 'Pisador (D.), Libro de cifra para taner vihuela;' and in England, at the time of Henry VIII., we find it occasionally called "the Spanish viol."

Instruction books for the old Spanish guitar have been written by:—Ludovico Milan, Valencia, 1534; Sixtus Kargel, Mayence, 1569; Joannes Carolus, Lerida, 1626; Pietro Milioni, Rome, 1638; Lucas Ruiz de Ribayaz, Madrid, 1672, &c. The number of guitar schools published during the last century is enormous. Germany alone contributed above fifty.

The guitar was a fashionable instrument in England, played by ladies, in the time of Charles II. On the Continent it generally had ten catgut strings, of which two were always tuned in unison. At the present day it has six strings, the lowest two of which are of silk covered with silver wire, and the others are of catgut. They are tuned as follows:—



The sound is, however, an octave lower than the notation; hence the guitar accompaniment is more effective with a soprano voice than with a tenor voice, and the least with a bass voice, on account of its coincidence with the compass of the male voices.

An old Portuguese guitar, dating from about the year 1600, which is still in a well-preserved condition, has twelve strings, which are arranged

ſo that the higher ſix are in ſets of two, and the lower ſix in ſets of three. As the ſtrings of each ſet are tuned in uniſon, five tones are produced by the open ſtrings. This guitar has three ſound-holes, the head is turned backwards ſomewhat like the head of the lute, and the frets are of catgut, as they uſed likewiſe to be on the lute.

389. '71.

GUITAR. Roſewood back, inlaid with lighter woods in radiating and zig-zag lines, and diaper pattern, with inſcription D RAFAEL VALLEJO ME HIZO EN BAZA, 1789; the ſounding board of pine, with the Royal Arms of Spain, and floral ornament inlaid in roſewood, and with inſcription SOY DEL REY DON CARLOS IIII Q^e D^s G^e M^s A^s (*i.e.*, Que Dios guarde muchos años). Made for Charles IV. of Spain. *Spaniſh.* 18th century. L. 3 ft. 2 in., W. 11⅜ in. (Bought, 5*l.*)

This guitar has the peculiar contrivance of twenty wire ſtrings being placed on the left ſide, in addition to the catgut ſtrings, of which there are twelve. The ſtrings are arranged in pairs, tuned in uniſon; thoſe of catgut, therefore, produce ſix tones, and thoſe of wire, ten.

390. '71.

GUITAR. Roſewood, inlaid with ivory, the ſounding board of pine inlaid with ivory and roſewood. *French.* Middle of 18th century. L. 2 ft. 11½ in., W. 9½ in. (Bought, 4*l.*)

676, 676*a*. '72.

GUITAR. Decorated with mythological figures and other ornament in tortoiſe-ſhell, mother-of-pearl, and ivory. In leather caſe, ſtudded with braſs nails. *French* (?). 17th century. L. 3 ft. 4⅜ in., W. 11⅞ in. (Bought, 53*l.*)

183. '69.

MACHÊTE. A ſmall ſpecies of guitar, with four gut ſtrings. Wood, made in the ſhape of a fiſh. *Madeira.*

Modern. L. 1 ft. $10\frac{1}{2}$ in., greateſt W. $6\frac{3}{4}$ in. (Given by Mr. T. Muir.)

The *Machête* is alſo popular in Portugal, where it generally has the ſhape of a diminutive guitar.

Machête is likewiſe the name of a kind of dagger which the Portugueſe peaſants formerly uſed to wear at the girdle.

"Five inſtruments in the ſhape of fiſh," are mentioned among the muſical inſtruments of Thomas Britton, the famous ſmall-coal man, in the catalogue of his effects, which were ſold by public auction after his death in 1714. The five inſtruments were probably *machêtes*, unleſs they were *pochettes*, like one in the ſhape of a fiſh which is in the Liceo Comunale di Muſica at Bologna.

396. '71.

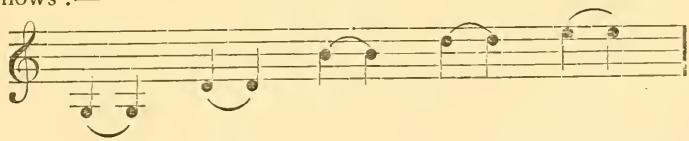
MACHÊTE. Wood, in form of a fiſh. Five ſtrings. *Madeira.* Early 19th century. L. $25\frac{1}{2}$ in., W. $7\frac{1}{2}$ in. (Bought, 2*l.*)

The ſurface is inciſed to repreſent the ſcales of a fiſh.

35. '67.

ZITHER. Wood, inlaid. Ten ivory tuning-pegs; wire ſtrings in pairs, tuned in uniſon; ornamented ſound-hole in the middle. The back is flat, the neck has metal frets. *German.* 16th century. L. 2 ft. $1\frac{3}{8}$ in., W. $8\frac{5}{8}$ in. (Bought, 3*l.*) (See Fig. 130.)

The old German *zither* (*zitter*, *cither*), of which the preſent inſtrument is a ſpecimen, contained four, five, ſix, or even more, pairs of wire ſtrings, each pair being tuned in uniſon. The zithers with five and ſix pairs of ſtrings were the moſt common. The former was tuned as follows:—



It was, however, very uſual to have for the loweſt tones ſingle ſtrings covered with thin wire.

The ſtrings were twanged with a quill, or with a piece of whalebone. The *cithern*, or *cittern*, which during the 16th and 17th cen-

turies was a popular inſtrument in England, where it was often played in the barbers' ſhops, had four pairs of wire ſtrings.

Its top generally terminated in a groteſquely-carved human head. The cithers made in England during the eighteenth century have generally at the top ſome inlaid ornamentation in ivory, mother-of-pearl, or fancy wood.

Although not well ſuited for the performance of harmonious combinations, ſince its wire ſtrings are twanged with a quill, and therefore only ſuch chords can be properly produced as are on ſtrings following each other in uninterrupted ſucceſſion, the cither, nevertheleſs, poſſeſſes conſiderable charms. Its ſound, which is criſp and clear when the ſtrings are twanged near the ſound-hole, aſſumes a particularly ſoft and ſweet quality when they are twanged cloſe to the bridge. Thus pleaſant

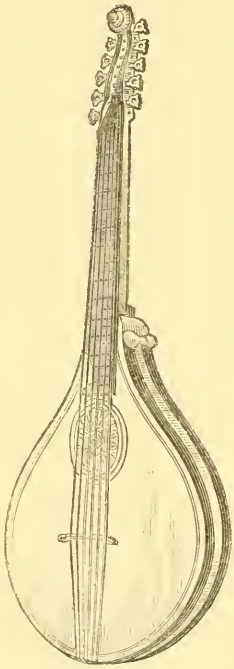


Fig. 130.—Zither.

effects are obtainable. True, modifications in quality of ſound, by vibrating the ſtrings more or leſs near to the end, are obtainable on any ſtringed inſtrument. They are alſo particularly effective on the lute; and, likewiſe, on the violin and other inſtruments played with a bow; but the cither pre-eminently invites to their employment.

This ſpecies of *zither* is ſtill to be found in ſome parts of Germany, particularly in mountainous diſtricts; but the horizontal *zither*, in which the finger-board is at the ſide of the ſound-board, is now the moſt in vogue.

There are ſeveral conjectures as to the derivation of the German name *zither* or *zitter*. Some ſuppoſe it to be from "*zittern*," on account of the peculiarly trembling ſound of the inſtrument. During the firſt centuries of the Chriſtian era the word *cythera* (*cithara*) implied almoſt any ſtringed inſtrument, eſpecially if the ſtrings were twanged with a plectrum, or with the fingers. It is alſo noteworthy, though perhaps only as a ſingular coincidence, that the Perſians and Hindus have a three-ſtringed ſpecies of *zither*, which they call *ſitar*, from the Perſian word *ſi*, "three," and *tar*, "a ſtring." The Hindu *ſitar* is, however, now uſually mounted with five ſtrings.

The characteriſtics of the Engliſh cither about the year 1600 may be aſcertained from 'New Citharen Leſſons, with perfect Tunings of the ſame, from four courſe of ſtrings to four-teene courſe, euen to tri: the ſharpeſt teeth of Enuie, with leſſons of all ſortes, and methodicall Inſtructions for all Profeſſors and Practitioners of the Citharen. By Thomas Robinſon, Student in all the liberall Sciences,' London, 1609. The title page is adorned with an engraving repreſenting a Bijuga Cither, mounted with ſeven pairs of ſtrings over the finger-board, and ſeven ſingle ſtrings at the ſide of the neck, as on the theorbo. The inſtruction is conveyed in the form of dialogue between "Scholler" and "Maſter." There is alſo an illuſtration of the common cither, with only four pairs of ſtrings, or eight ſtrings producing four uniſons. Another curious book on the Engliſh cither, publiſhed by John Playford, is entitled, 'Muſick's Delight; containing new and pleaſant Leſſons on the Cithern,' London, 1666.

392. '71.

CETERA. Maple-wood, ſtained, the body carved with overlapping roſettes and other ornament; the ſound-board of ſtained deal with perforated tracery, inſcribed at back "Auguſtinus Citarœdus Urbinas, MDLXXXII." *Italian.* Late 16th century. L. 3 ft. 1¾ in., W. 12 in. (Bought, 8*l.*)

This intereſting old cither had originally thirteen tuning-pegs, of which, however, two only ſtill remain.

37. '70.

KEYED-CITHER. Wood, mounted with gilt metal and tortoiſe-ſhell. With Preſton's tuning machine. *Engliſh.* 18th century. L. 2 ft. 3½ in., W. 12¼ in. In wooden caſe, covered with ſtamped leather. (Given by Mrs. Bayley.)

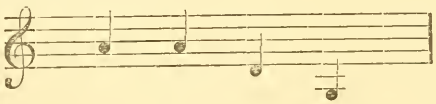
Six keys, like thoſe of the pianoforte, are placed in a little box, which is ſcrewed on over the ſtrings, ſo that the hammers ſtrike the ſtrings from above.

In England, Chriſtian Clauſs took out a patent, in the year 1783, for the application of ſuch a contrivance, which, as he declares it to be his own invention, probably differed ſomewhat from the preſent one.

642. '69.

ZITHER (alſo called Schlagzither). In caſe. The inſtrument is of roſewood, inlaid with braſs, mother-of-pearl, and ivory. The caſe contains three braſs boxes for ſtrings, a bruſh, two pairs of nippers, key, tuning-key, and cleaner. *Bavarian.* Modern. L. of inſtrument, 1 ft. 8 in., W. 1 ft. 1 in., H. 2 in. (Bought, Paris Exhibition, 1867, 6*l.* 8*s.*)

This horizontal ſpecies of *zither*, which bears but little reſemblance to its nameſake juſt deſcribed, has recently come into faſhion, eſpecially in the ſouth of Germany; but it is not exactly a modern invention, for, in a leſs perfect ſtate of conſtruction it has long been a favourite inſtrument of the country people in Auſtria, Styria, Bohemia, Bavaria, and the Tyrol. It is now moſt uſually made with 30 ſtrings, of which four are on the finger-board, and are uſed for playing the melody; 26 ſtrings ſerve for playing the accompaniment. The ſtrings are of ſteel wire, braſs wire, braſs wire covered with ſilver, catgut, ſilk covered with ſilver wire, and ſilk covered with copper wire. The four ſtrings for the finger-board are tuned thus:—



The performer places the inſtrument before him on a table; and he has attached to the thumb of his right hand a plectrum made of ſilver

wire, or of German ſilver, with which he ſtrikes the melody ſtrings; while the other fingers of his right hand ſtrike the accompaniment ſtrings. There are zithers with more and with fewer ſtrings than the ſpecimen thus deſcribed.

Three kinds of the horizontal *zither* are at the preſent day conſtructed in Germany, the *ſchlagzither*, the *liederzither*, and the *ſtreichzither*. The laſt-named is played with a bow; the others are intended for playing tunes, and for accompanying the voice.

641. '69.

STREICHZITHER and Bow, in Caſe. A ſmall inſtrument, three-ſtringed, and played with a bow. The body is of roſewood, inlaid with ivory; the ſtrings are of metal. It has three ſmall feet with points of metal, and is placed on a table when it is played. *Bavarian* (*Munich*). Modern. By Max Amberger. L. 1 ft. 7½ in., W. 10⅛ in. (Bought, Paris Exhibition, 1867, 3*l.* 12*s.*)

643. '69.

VIOLIN. *German.* Modern. L. 2 ft. (Bought, Paris Exhibition, 1867, 16*s.*)

Of the ſtringed inſtruments uſed in our orcheſtra, the *violin* is the one which has been longeſt preſerved entirely unaltered. Its name (Italian, *violino*), a diminutive of *viola*, ſuggeſts that our *tenor* (*viola di braccio*) is the older inſtrument of the two. The *viol*, in uſe about three centuries ago, was however ſomewhat different in ſhape. As the oldeſt-known inſtruments played with a bow, which in European countries preceded the violin, may be mentioned:—The *rebec*, which, it appears, was firſt popular in Spain; the *crwth* of the Welſh; the *fidla* of the Norwegian, which, in ſhape ſomewhat reſembled the *crwth*, and which, with ſome ſlight modifications, is ſtill occaſionally to be found in Iceland, where it is called *langſpiel;* and the *ſithele* of the Anglo-Saxons, derived originally from Germany. A repreſentation of the Anglo-Saxon *ſithele*, contained in a manuſcript of the eleventh century, preſerved in the Britiſh Muſeum, exhibits a four-ſtringed fiddle of a pear ſhape; or, to ſpeak more exactly, reſembling the half of a pear divided longitudinally. A ſtill earlier repreſentation of a fiddle,

almoft identical with the foregoing, but having only one ftring, is given in Martinus Gerbert's 'De Cantu et Mufica Sacra.' The manufcript from which this illuftration has been derived, is fuppofed to date from the eighth or ninth century. In Germany, the oval, or rather pear-like form of the Anglo-Saxon *fithele* was ftill preferved, although fomewhat modified, as late as the fixteenth century, in the *Geige*, of which fome engravings are given in Martin Agricola's 'Mufica inftrumentalis,' Wittemberg, 1545.

Such were the inftruments from which our violin has gradually been developed, until it attained, in the feventeenth century, that degree of perfection which has never fince been furpaffed. The violin makers whofe inftruments are ftill moft highly valued, are,—Antonio Amati, whofe moft flourifhing period dates between the years 1592 and 1619; Nicolo Amati, the nephew of the preceding, 1662–1692; Giufeppe Guarneri, 1690–1707; Antonio Stradivari, 1700–1725; and Jakob Stainer, 1650–1670. All thefe celebrated makers, except Jakob Stainer, were Italians, living at Cremona. Jakob Stainer (or Jacobus Steiner), was a native of Abfom, a village near Innfbruck in the Tyrol. No other works of art have probably experienced fo great an increafe in price as the violins of thefe celebrated makers. Stainer ufed himfelf to carry his violins to the monafteries fituated in the neighbourhood of Abfom, where he lived. He fold them at 12*s.* apiece. It was not until after his death that his workmanfhip was duly appreciated. A violin by Jofeph Guarnerius, fetched in London, 700 guineas; perhaps the largeft fum which has ever been given for a violin.

34. '69.

VIOLIN and Bow. Carved with fcrollwork, and the royal fhield and fupporters. Said to have belonged to King James I. *Englifh.* Early 17th century. L. 1 ft. 11¼ in., W. 8 in., L. of bow 2 ft. 4½ in. (Bought, 15*l.*)

499. '68.

VIOLIN. *German.* Modern. (Bought, Paris Exhibition, 1867, 4*s.*)

541. '72.

VIOLIN Bow. Steel. Manufactured and given by Mons. J. B. Vuillaume. *French.* 1871. L. 2 ft. 5 in.

There are ſeveral celebrated violin bow makers, but the bows moſt coveted are thoſe by François Tourte, Lupot, Edward and John Dodd, and Vuillaume. François Tourte, in Paris, during the ſecond half of the eighteenth century, and in the beginning of the preſent century, charged about 12*l.* each for ſome of his bows. Edward Dodd, who died in London in the year 1810,—it is ſaid, at the age of 105,—was the father of John Dodd, whoſe bows are more highly eſteemed than thoſe of his father.

10. '71.

MINIATURE Violin. Wood, with carved head; the lower part of the back inlaid with coloured woods, repreſenting mediæval buildings. *German* (?). 17th century. L. 12⅜ in., W. 3½ in. (Bought, 2*l.* 5*s.*)

The body of this ſmall violin is of about the ſize of a *pochette;* but the inſtrument differs from the *pochette* inaſmuch as the neck is of the ſame proportion to the body as that of a violin; while the neck of the *pochette* is conſiderably longer in proportion to its body.

519–519*b*. '72.

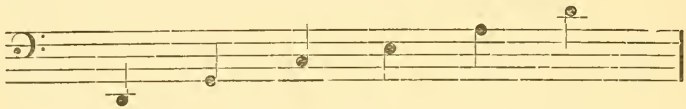
SORDINO (French *pochette*) with Bow. The belly wood, the reſt ivory, with carved female head. The bow alſo ivory. By "Dimanche Drouyn à Paris." In ſtamped and gilt leather caſe. *French.* 17th or early 18th century. L. 15 in., L. of bow, 15 in. (Bought, 1*l.* 10*s.*)

The inſtrument is boat-ſhaped. The name *ſordino* is alſo occaſionally applied to the Kit, made in the ſhape of a violin. The dancing-maſters carried it in their pocket, hence its French name, *pochette*, and its German name, *taſchengeige*.

7360. '61.

VIOLA-DA-GAMBA. Wood, the head carved with foliated ſcrollwork, and terminating in a female buſt. The finger-board inlaid with marquetry of ivory, &c. Six tuning-pegs. *Italian.* About 1600. L. 4 ft., W. 1 ft. 2 in. (Bought, 4*l.* 11*s.*)

The *viola da gamba* (French, *baſſe de viole;* German, *kniegeige*), derives its name from its being held between the knees of the performer. It was the predeceſſor of the violoncello, and was made with frets. It uſually had ſix ſtrings which gave the following tones:—



Towards the end of the ſeventeenth century a ſeventh ſtring was added, ſaid to have been firſt uſed by the French virtuoſo, Marais, who alſo had the three loweſt ſtrings covered with wire. His innovations were, however, not generally adopted.

The *viola da gamba* was a favourite inſtrument in England at the time of Queen Elizabeth, and even ladies played it occaſionally. In England it was called *baſe viol*, and alſo *viol-de-gambo.* Sir Toby Belch, in Shakeſpeare's 'Twelfth Night,' ſays of Sir Andrew Aguecheek:—

"He plays o' the viol-de-gamboys, and ſpeaks three or four languages word for word without book, and hath all the good gifts of nature."

Among the Engliſh public performers on the *viola da gamba* are recorded a Mrs. Sarah Ottey, in the year 1723, and a Miſs Ford in 1760. Carl Friedrich Abel, a German, who lived in London during the latter half of the eighteenth century, was the laſt performer of celebrity on this inſtrument. Johann Sebaſtian Bach has employed it in his admirable 'Paſſionſmuſik des Matthæus'; and there are ſome fine 'Suites,' ſtill occaſionally to be met with, compoſed for it by M. de Caix d'Herveloix, publiſhed in the year 1710. The tone of the *viola da gamba* is rather naſal, but ſweet and expreſſive; indeed, it is to be regretted that this charming inſtrument has fallen into diſuſe. There is, however, a *gamba* ſtop in the organ, which reſembles the famous *vox humana* ſtop, and which has recently been much favoured by organ builders.

The *violoncello* came into competition with the *viola da gamba* at the beginning of the eighteenth century, and has now entirely ſuperſeded its predeceſſor.

1298, 1298*a*. '71.

VIOLA-DA-GAMBA, with Bow. Wood, inlaid with ivory and with figures of Apollo, Venus, Mercury, and Diana, in mother-o'-pearl, the back of the neck having inſerted in it a piece of ivory finely perforated; ſix ſtrings and four tuning-pegs (two miſſing). Inſcribed inſide "Martin Voigt in Hamburgo me fecit, 1726." Said to have belonged to Haydn. *German.* L. 4 ft. 1 in., W. 14¾ in., L. of bow, 2 ft. 7¾ in. (Bought, 60*l.*)

398, 398*a*. '71.

VIOLA - DA - GAMBA. Altered into a violoncello. Sycamore (?) wood, with carved medallion of the Imperial arms; the finger-board, which terminates in a carved female head, is of ebony inlaid with ivory and pearl. Wooden caſe, covered with ſtamped leather. *German.* 17th century. L. 4 ft. 1 in., W. 15½ in. (Bought, 16*l.*)

Although the back and ſides of the *viola-da-gamba* were occaſionally made of ſome other wood, a ſpecies of maple, called *air-wood* by the Engliſh makers of the ſeventeenth century, was conſidered the moſt ſuitable for enſuring a fine quality of ſound. Moreover, the body was not always made ſlanting towards the finger-board, but ſometimes rounded like that of the violin. An illuſtration of a ſmall *viola-da-gamba* of this ſhape is given in C. Simpſon's 'The Diviſion Violiſt,' London, 1659. The *viola-di-ſpala*, uſed about the year 1700, was nothing more than a *viola-da-gamba* of this deſcription, which gradually merged into a ſmall violoncello by the ſubſtitution of four ſtrings for ſix, and the omiſſion of the frets. The *viola-di-ſpala* was carried by the performer before him partly reſting on his ſhoulder; hence its name. On the continent the violoncello alſo was not unfrequently carried by the performer in proceſſions.

115, 115*a*, *b*, *c*. '65.

VIOLA di Bardone. Alfo called *viola di bordone*, and *baryton*. The finger-board is carved in open fret-work terminating in three lions' heads; above the bridge are two figures of negroes, carved and gilt. At one fide of the finger-board is the infcription—" Joachim Tielke in Hamburg fecit, Anno, 1686." *German* (*Hamburg*). By J. Tielke. Signed and dated 1686. L. 4 ft. 6 in., W. 1 ft. 4½ in. Alfo two bows, and a wreft, or tuning key of metal. (Bought, 40*l*.)

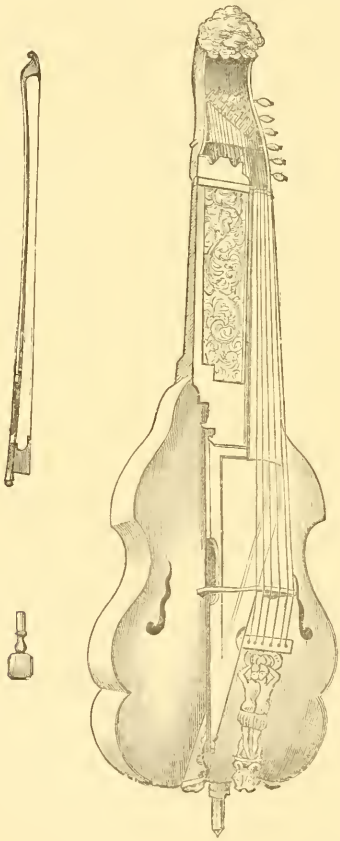
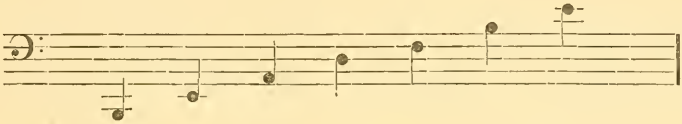


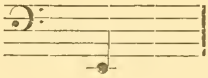
Fig. 131.—Viola di Bardone.

This inſtrument has ſix ſtrings of catgut, which are tuned by means of wooden pegs, and are played with a bow; and beneath theſe it has twenty-two metal ſtrings, which ſerve as ſympathetic ſtrings, like thoſe deſcribed, page 204. The ſympathetic ſtrings are wound round iron tuning-pegs placed near the top of the neck; and they run down, partly under the finger-board and partly at its ſide, extending to the bridge, where they are faſtened to little pins placed in an oblique line beneath the bridge. The body of the inſtrument has at each ſide two indentations, and is flat at the back. The two ſound-holes are remarkable for their old-faſhioned ſhape.

The *viola di bardone* was often mounted with ſeven catgut ſtrings, inſtead of ſix; and they were tuned as follows:—



The number of metal ſtrings likewiſe varied. Some old writers mention from ſixteen to twenty, and others as many as forty-four. Theſe ſtrings were arranged in a diatonic ſucceſſion, the loweſt of them emittin the tone—



They ſerved, however, not only as ſympathetic ſtrings, but were occaſionally twanged with the thumb of the left hand, to produce effects reſembling thoſe of the lute. The moſt accompliſhed performers on the *viola di bardone* were Anton Lidl of Vienna (to whom is ſometimes erroneouſly aſcribed the invention of this inſtrument) and Karl Franz, a muſician of the band of Prince Eſterhazy, about the middle of the laſt century. Lidl played on the *viola di bardone* in concerts in England during the year 1776. Joachim Tielke of Hamburg, the manufacturer of the ſpecimen in the Muſeum, of which an illuſtration is here given, was an inſtrument maker whoſe lutes were much eſteemed on account of their fine tone, and their elegant ornamentation. He made them of ebony inlaid with ivory, mother-of-pearl, ſilver, and gold. A ſmall *viola di bardone* by Tielke, dated 1687, which ſome years ago was exhibited at the Society of Antiquaries in London, had ſix catgut ſtrings, and only eleven wire ſtrings.

Joſeph Haydn wrote ſixty-three compoſitions for the *viola di bardone* by order of Prince Eſterhazy, who was himſelf a performer on this inſtrument, and who admired it greatly. Its tone is ſoft and very ex-

preſſive, but rather tremulous; owing to this quality, probably, it was alſo called *viola di fagotto*. It never became very popular, ſince its rather complicated conſtruction offered too many difficulties in its treatment. In Germany it was generally called *baryton*.

1444, 1444*a*. '70.

VIOLA di Bardone, or Baryton, with Bow. The neck of carved and pierced box-wood, terminating in a figure of Apollo playing the lyre; the finger-board of ivory, engraved, and inlaid with ebony and tortoiſe-ſhell, with figures of Jupiter and Juno, and a female playing on the lute. Inſcribed "Jaques Sainpræ, A Berlin." Said to have belonged to Quanz, muſic maſter of Frederick the Great. *German.* 17th century. L. 4 ft. 6 in., W. 16½ in., L. of bow 2 ft. 2½ in. (Bought, 75*l.*)

The name *baryton* has been alſo applied to a ſmall violoncello, and to ſome other inſtruments; and likewiſe to that regiſter of the human voice which lies between the baſs and tenor. The term *bardone* is a corruption of the Italian *bordone*. Indeed, ſome old writers call the inſtrument *viola di bordone*, and its French name is *viole de bourdon*, evidently on account of its wire ſtrings producing the ſound of a drone (*bourdon*). However, the learned F. W. Marpurg ('Hiſtoriſch-Kritiſche Beyträge Zur Auf nahme der Muſik,' Berlin, 1756, vol. ii.) records that it was originally called *viole de pardon*, and that it was invented in England by a priſoner condemned to be hanged, who in conſideration of his invention was pardoned. Extravagant ſtories have occaſionally been ſet afloat to explain the names of certain muſical inſtruments the real meaning of which is uncertain.

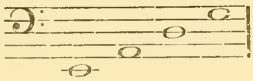
John Playford, in his 'Muſick's Recreation on the Viol Lyra-way,' London, 1661, deſcribes a *lyra-viol*, the invention of which he aſſigns to Daniel Farunt, as a viola-da-gamba "ſtrung with Lute ſtrings and Wire ſtrings, the one above the other. The wire ſtrings were conveyed through a hollow paſſage made in the neck of the viol by a bridge of about half-an-inch. Theſe were ſo laid that they were equivalent to thoſe above, and were tun'd uniſons to thoſe above; ſo that by the ſtriking of thoſe ſtrings above with the bow, a ſound was drawn from thoſe of wire underneath, which made it very harmonious. Of this ſort of Viols I have ſeen many; but Time and Diſuſe has ſet them aſide."

From this ſtatement it would appear that an inſtrument very ſimilar to the *viola di bardone* was known in England about the middle of the ſeventeenth century.

487. '72.

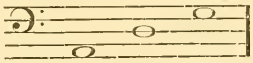
DOUBLE-BASS, with Bow. Known as "The Giant." Three-ſtringed. Preſented to the Duke of Leinſter by the late Dragonetti. In wooden caſe. *Italian.* 17th century. L. 8 ft. 7 in., W. 3 ft. 6 in., L. of bow, 2 ft. 3 in. (Given by the Duke of Leinſter.)

The double-baſs (Italian, *contrabaſſo*, *violono*; French, *contre-baſſe*, *violone*; German, *groſſe baſs-geige*, *contrabaſs*) is either four-ſtringed or three-ſtringed. The four-ſtringed double-baſs is eſpecially uſed in Germany, and is tuned in fourths, thus :—



Three-ſtringed ones are, however, not uncommon in Germany, eſpecially in the ſouth, and are generally uſed in Italy, France, and England. The three-ſtringed double-baſs is uſually tuned in fifths, thus :—

In England, however, it is tuned in fourths, thus :—



It muſt be remembered that the ſound is an octave lower than is indicated by the notation.

The predeceſſors of the double-baſs were five-ſtringed and ſix-ſtringed. They reſembled the viola-da-gamba in ſhape, and had frets on the finger-board.

The uſual mechaniſm applied to the ſcrews of the double-baſs for facilitating its tuning is a comparatively modern contrivance. It was invented by C. L. Bachmann in Berlin, about the year 1778. Before that time the ſcrews were turned by means of an iron key conſtructed for the purpoſe.

Dragonetti, the celebrated virtuoſo on the double-baſs, came to England in the year 1794. His favourite inſtrument, upon which he played in public concerts, was a 'Gaſpar di Salo,' which he obtained from the Convent of St. Pietro at Vicenza, and which he never could be induced to part with, although 800*l.*, it is ſaid, was offered him for it by one of his rich and enthuſiaſtic pupils in England. After the death of Dragonetti this baſs, and another valuable one by Stradiuarius, were ſent back to Italy, he having bequeathed them in his will to the town of Venice. Dragonetti died in the year 1846 at his houſe in Leiceſter Square, at the age of 83. A year before his death he was ſtill able to aſſiſt in the public performances at the Beethoven Feſtival in Bonn. His friend H. Philipps mentions in his 'Muſical Recollections,' that the ends of Dragonetti's fingers had gradually become quite flat and deformed from playing.

Some double-baſſes of extraordinary large ſize are known to have been made in England. William Gardiner ('Muſic and Friends,' London, 1838, p. 70) mentions ſuch an inſtrument, made by Martin in Leiceſter, which he ſaw in the year 1786, and which, if his ſtatement may be relied upon, "was of ſuch height that Mr. Martin was obliged to cut a hole in the ceiling to let the head through; ſo that it was tuned by going upſtairs into the room above."

430. '72.

NAIL-VIOLIN. (German, *nagelgeige*, *nagelharmonika*, *eiſenvioline.*) Mahogany; circular, with three ſound-holes, and forty-nine pins. There are braſs pegs for fifteen ſympathetic ſtrings, which are miſſing. *French.* 18th century. Diam. $13\frac{5}{8}$ in. (Given by Monſieur Vuillaume, Paris.)

The oldeſt *nail-violins*, dating from about the year 1740, were made without ſympathetic ſtrings. Theſe ſtrings, intended to increaſe the ſonoroufneſs, are of thin braſs wire. Senal in Vienna, about the year 1780, improved the inſtrument, and excelled as a virtuoſo on it. Träger in Bernburg, in the year 1791, made it of an oblong-ſquare ſhape, added a keyboard to it, and called it *nagelclavier*. In Träger's inſtrument the friction was, however, not produced by a bow, but by a linen band coated with reſin.

The iron nails, or pins, of the *nail-violin*, which are ſounded by the friction of a bow, gradually diminiſh in length and thickneſs from the

loweſt to the higheſt tone. When ſtruck in regular ſucceſſion they produce the chromatic ſcale. The pins yielding the diatonic intervals are ſtraight, and thoſe for the chromatic intervals are ſlightly curved at the top.

4265. '57.

VIRGINAL. Ebony, enriched with appliqué open-work tracery, in ſilver; in the under ſide of the lid is a mirror. *German.* About 1600. L. 1 ft. 6½ in., W. 11 in. (Bought, 44*l.*)

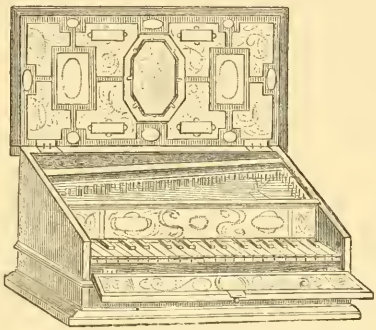


Fig. 132.—VIRGINAL.

The inſtrument has metal ſtrings, one for each tone, which are twanged by means of ſmall portions of quill, attached to ſlips of wood called "jacks," and provided with thin metal ſprings. Its conſtruction is therefore ſimilar to that of the ſpinet and harpſichord. Its compaſs embraces three octaves and a whole tone, thus :—

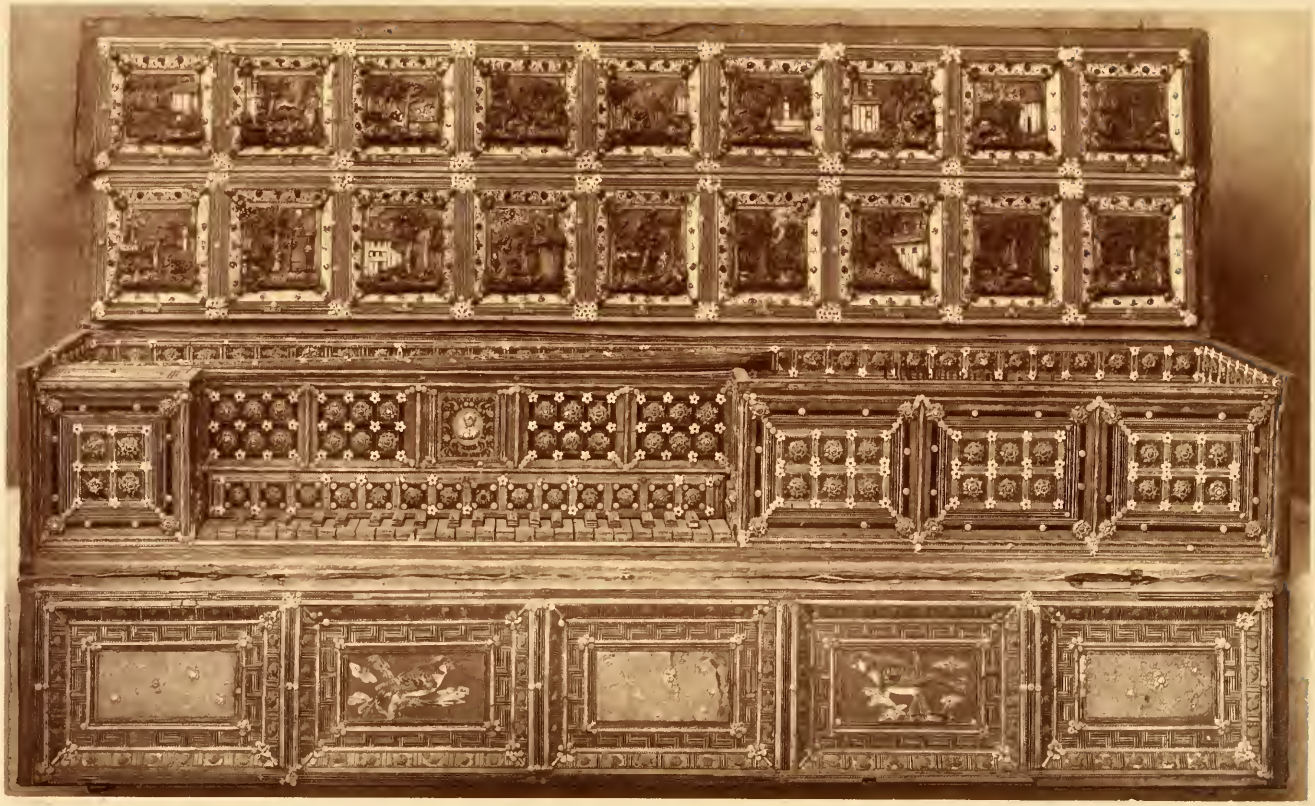
But the pitch of the inſtrument was probably originally higher than indicated by the notation. The higheſt ſemitone, G-ſharp, is omitted. Crowquills were moſt commonly uſed in the conſtruction of ſuch inſtruments; but other materials, as for inſtance leather, whalebone, and even elaſtic ſtrips of metal, were occaſionally adopted inſtead.

The *virginal* is ſaid to have obtained its name from having been intended eſpecially to be played by young ladies. The ſtatement of ſome writers that it was called virginal in compliment to Queen Elizabeth, is refuted by the fact of its being mentioned among the muſical inſtruments of King Henry VIII. in the beginning of the ſixteenth century. Probably the name was originally given to it in honour of the Virgin Mary, ſince the *virginal* was uſed by the nuns for accompanying their hymns addreſſed to the Holy Virgin. It was made of various ſizes, but generally ſmall in compariſon with our ſquare pianoforte. The Italians, about three hundred years ago, conſtructed a ſmall portable inſtrument of this kind, which they called *ottavino* (or *octavina*) becauſe its pitch was an octave higher than that of the clavicembalo, or harpſichord.

Queen Elizabeth was a performer on the *virginal* as well as on the lute. Sir James Melville, the Scotch ambaſſador, records in his memoirs an interview with Queen Elizabeth, in the year 1564, in in which he heard her play upon the virginal:—"Then ſche aſked wither the Quen [Mary of Scotland] or ſche played beſt. In that I gaif hir the prayſe." During the Shakeſperian age a virginal generally ſtood in the barbers' ſhops for the amuſement of the cuſtomers. The inſtrument had evidently retained its popularity at the time of the Great Fire of London; for Pepys (Diary, September 2, 1666) records:—"River full of lighters and boats taking in goods, and good goods ſwimming in the water; and only I obſerved that hardly one lighter or boat in three that had the goods of a houſe in, but there was a pair of virginalls in it."

402. '72.

VIRGINAL. In ſtamped and gilt leather caſe, decorated internally with panels containing repreſentations of incidents in claſſical mythology, and other ornaments in coloured glaſs, and with plaques of ſilver foliage and enamel on copper; the key-board of forty-five keys, and other parts, enamelled in a ſimilar manner. Made at Murano, near Venice. Said to have belonged to Elizabeth, Queen of Bohemia, daughter of James I. *Italian.* End of 16th century. L. 4 ft. 11½ in., H. 10 in., Depth, 16½ in. (Bought, 140*l.*)

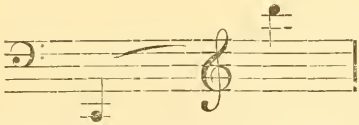


An Italian *ſpinetta* of an oblong-ſquare ſhape. In England a ſpinet of this ſhape was commonly called a virginal, or rather "a payre of virginalls," according to writers of the ſeventeenth century.

813. '73.

VIRGINAL. Outer covering of oak. The inſide painted, repreſenting Adam and Eve in Paradiſe; a ſea fight; hunters of the 17th century. *Engliſh.* 17th century. Inſcribed "John Looſemore fecit, 1655." H. 3 ft. 6 in., L. 5 ft. 8½ in., W. 20½ in. (Bought, 52*l.* 10*s.*)

The compaſs of this *virginal* embraces four octaves and a whole-tone, thus:—



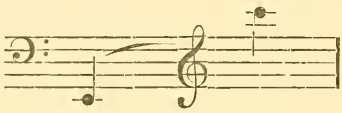
John Looſemore, Stephen Keen, and Adam Leverſidge were the moſt ſkilful Engliſh virginal makers of the ſeventeenth century. A virginal made by Adam Leverſidge in the year 1666, which is ſtill extant, meaſures 5 feet 2 inches in length and 20 inches in width. The inſide of the cover and the woodwork about the ſound-board are ornamented with paintings.

The firſt book of muſic for the virginal publiſhed in England is entitled: 'Parthenia, or Maydenhead of the firſt Muſicke that ever was printed for the Virginalls; compoſed by three famous maſters, William Byrde, Dr. John Bull, and Orlando Gibbons, Gentilmen of his Majeſtie's moſt Illuſtrious Chappell. Ingraven by William Hole.' It was publiſhed in London in the year 1611.

218. '70.

OTTAVINO. An Italian Spinet, ſomewhat reſembling the Virginal. Compaſs, 3¾ octaves. Painted wooden caſe. The back of the key-board ornamented with figures in etched gold. The inſide of the lid painted with a ſhip in full ſail, and marine deities, dancing figures, and muſical trophies; ſaid to be by Federigo Zucchero. *Italian.* Late 16th century. L. 2 ft. 3⅛ in., W. 17 in. (Bought, 20*l.*)

The ſhape of this little ſpinet differs from the oblong-ſquare ſhape of the little virginal, inaſmuch as the right ſide is longer than the left ſide. The lower keys are white and the upper ones are black. There is only one ſtring for each tone, and the mechaniſm, or "action," is with quills like that of the harpſichord. The ſound-board has a ſound-hole in the middle. The compaſs embraces three octaves and a ſixth, thus :—



The pitch was probably an octave or a fifth higher than indicated in the notation; but this is not exactly aſcertainable ſince the ſtrings are looſened or wanting.

809. '69.

SPINET. Wood and ivory, ornamented with jaſpar, agate, and other decorative ſtones, and ſet with lapis-lazuli, pearls, garnets, &c. *Italian.* Made by Annibale dei Roſſi of Milan, 1577. L. in front 4 ft. $9\frac{1}{2}$ in. (Bought, Paris Exhibition, 1867, 1,200*l.*)

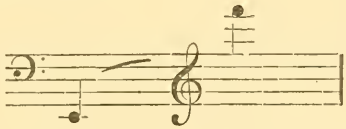
Liſt of the Decorative Stones, &c. on this Inſtrument.

857 turquoiſes, ſmall.
361 pearls, ſmall.

3	lapis lazuli	$1\frac{1}{8}$	×	$1\frac{1}{8}$ in.	Round.
6	,, ,,	1	×	$\frac{3}{4}$ in.	,,
25	,, ,,	$\frac{5}{8}$	×	$\frac{3}{8}$ in.	Flat.
2	,, ,,	2	×	$\frac{5}{8}$ in.	,,
8	,, ,,	$1\frac{1}{2}$	×	$\frac{3}{8}$ in.	,,
20	,, ,,	$2\frac{3}{8}$	×	$\frac{5}{16}$ in.	,,
8	,, ,,	$\frac{7}{8}$	×	$\frac{5}{8}$ in.	Round.
18	,, ,,	$\frac{1}{2}$	×	$\frac{3}{8}$ in.	,,
10	,, ,,	$\frac{1}{4}$ in. diameter.			
1	,, ,,	H. 1 in., diam. $\frac{1}{2}$ in.			
2	,, ,,	$\frac{1}{2}$ in. × $\frac{1}{2}$ in.			
5	amethyſts,	1 in. × $\frac{5}{8}$ in.			
23	,,	ſmaller.			
10	topazes (quartz)	1 in. × $\frac{5}{8}$ in.			
48	,, ,,	ſmaller.			

6	carnelians, $\frac{3}{4}$ in. × $\frac{5}{8}$ in.
40	emeralds, ſmall.
32	ſapphires, ſmall.
117	garnets, ſmall.
242	rubies and garnets, ſmaller.
4	cryſtals (foiled) 1 in. × $\frac{5}{8}$ in.
5	agates (pink) 1 in. × $\frac{5}{8}$ in.
4	,, (celadon) 1 in. × $\frac{5}{8}$ in.
19	agates and jaſpers, 1 in. × $\frac{5}{8}$ in.
2	jaſpers (variegated) $2\frac{1}{2}$ in. × $\frac{1}{2}$ in.
18	,, ,, $1\frac{1}{8}$ in. × $\frac{1}{2}$ in.
4	,, ,, $\frac{1}{2}$ in. × $\frac{1}{4}$ in. (pedeſtals).
28	,, (red) $2\frac{1}{2}$ in. × $\frac{1}{4}$ in.
Total -	1,928

This ſpinet in ſhape reſembles the dulcimer. (*See the frontiſpiece.*) It is open at the top, inſtead of being covered with a lid. It has a round and ornamented ſound-hole in the middle of the ſound-board. There is only one ſtring for each tone. The compaſs embraces four octaves and a ſemitone, thus :—



Over the key-board is the inſcription :—" Anniballis de Roxis Mediolanenſes MDLXXVII." The following extract from 'La Nobilità di Milano,' 4to. Milano, 1595, lib. v., cap. viii., p. 18, refers to this inſtrument.

" Degno di lode fù Annibal Roſſo, per eſſer ſtato il primo inuentore di rimodernare i clauicordi in quella forma moderna, come hoggidì ſi veggono. Queſto virtuoſo fece fra gli altri lauori un clauicordo di rara bellezza e bontà con i taſti tutti di pietre precioſe e di vaghiſſimi ornamenti, che fù venduto per ſcudi cinquecento, e lo poſſiede il dotto e virtuoſiſs. illuſtre Sig. Carlo Trivultio. E. Ferrante, ſuo figliuolo, và tuttavia imitando il padre e trouando nuove inuentioni ne clauicordi, doue ne vien lodato."

(*Tranſlation.*)

" Hannibal Roſſo was worthy of praiſe, ſince he was the firſt to modernize clavichords into the ſhape in which we now ſee them. This

ſkilful maker conſtructed among other works a clavichord of uncommon beauty and excellence, with the keys all of precious ſtones, and with the moſt elegant ornaments. This inſtrument was ſold for 500 crowns, and is now in the poſſeſſion of the learned and refined nobleman Signor Carlo Trivulzio. Ferrante, his ſon, goes on in all reſpects in imitation of his father, and makes freſh improvements in clavichords, thereby gaining himſelf a name."

It will be obſerved that in this old record the inſtrument is called *clavicordo*. There evidently prevailed, ſome centuries ago, much vagueneſs in the deſignation of certain ſtringed inſtruments with a key-board. The term *clavichord* ſeems to have not unfrequently been applied to any ſtringed inſtrument with a key-board, no matter what its interior conſtruction might be. Johann Walther, in his 'Muſicaliſches Lexicon,' Leipzig, 1732, deſcribes the *virginal* (or "Virginale," as he calls it), in theſe words :—"Ein Clavier vors Frauenzimmer" (*a clavichord for ladies*). The following brief explanation of the difference between the ſpinet and the clavichord may therefore be of intereſt to ſome inquirers.

The *ſpinet* (Italian, *ſpinetta* or *ſpinetto ;* French, *épinette*), is ſaid to have derived its name from the little quill (*ſpina*) uſed in its mechaniſm, which is the ſame as that of the harpſichord and the virginal, deſcribed before.

The more commonly-known ſpinet reſembles in ſhape the harpſichord and the grand-piano. It is, however, ſmaller than the harpſichord, and its key-board is placed in a ſomewhat oblique direction. The tone of the ſpinet was generally a *fifth* higher than that of the harpſichord.

The *clavichord* (Italian, *clavicordo ;* German, *clavier*, or *klavier*), differs from the ſpinet inaſmuch as it is of an oblong-ſquare ſhape, and eſpecially in its being conſtructed with ſo-called *tangents*, *i.e.*, metal pins which preſs under the ſtrings when the keys are ſtruck. The ſtrings are of thin braſs wire. The oldeſt ſpecimens of the clavichord ſtill extant are from three to four feet in length, and about two feet in width. The lower keys are black, and the upper ones are white. There is only a ſingle ſtring for each tone and its upper ſemitone ; thus, there is but one ſtring for *C* and *C-ſharp*, and likewiſe for *D* and *D-ſharp*, and ſo on. The ſemitone is produced by a ſecond tangent, which touches the ſtring at a place a little diſtant from that at which it is touched by the tangent producing the whole-tone. On being preſſed under the ſtring, the tangent divides it into two vibrating parts, one of which is conſiderably longer than the other and gives the ſound. The other part is too ſhort to be diſtinctly audible, and therefore does not very perceptibly interfere with the clearneſs of the ſound. Moreover, its vibration is checked by a ſtrip of cloth interlaced with the ſtrings. It will eaſily be underſtood

that of the two tangents, the one which moſt ſhortens the ſounding part of the ſtring, muſt produce a tone of a higher pitch than the other.

Such was the conſtruction of the *clavichord* until about the year 1700, when it was improved in ſo far as that each key was ſupplied with a ſeparate ſtring. The clavichord is pre-eminently a German inſtrument. Although now almoſt entirely ſupplanted by the pianoforte it is ſtill occaſionally to be met with in the houſe of the German village ſchoolmaſter, and of the country parſon. Though but weak in ſound, it admits of much expreſſion; and moſt of the German claſſical compoſers who lived before the invention of the pianoforte preferred the clavichord to the harpſichord. In England it has never become popular. Conſidering the ſimplicity of its conſtruction, it might be ſurmiſed that the price of a clavichord was generally very moderate. In the latter half of the 18th century the prices charged for ſuch inſtruments by ſome of the beſt manufacturers were as follows:—Carl Lemme, in Brunſwick, made clavichords of various qualities, which fetched from three to twelve Louis d'ors a-piece; he alſo made, for exportation to Batavia, clavichords with a compreſſed ſounding-board, invented by his father in the year 1771; Krämer, in Göttingen, charged from four to fourteen Louis d'ors, according to ſize and finiſh; and Wilhelmi, in Caſſel, charged from twenty to fifty thalers,—from about 3*l.* to 7*l.* 10*s.*

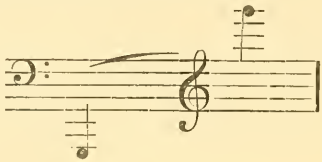
156. '69.

SPINET. This inſtrument is in dimenſions, mechaniſm, and compaſs, preciſely like that by Annibale juſt deſcribed. It bears the inſcription—*Opvs Anibalis Mediolanenſis, MDLV. Italian.* 16th century. L. 5 ft., W. 1 ft. 9 in. (Bought, 150*l.*)

155. '69.

SPINET. In ſhape and conſtruction ſimilar to the preceding inſtrument. It bears the inſcription — *Marci Jadrae MDLXVIII. Italian.* 16th century. L. 4 ft. 9¾ in., W. 1 ft. 7 in. (Bought, 150*l.*)

SPINET. Compaſs, five octaves :—



Conſtructed with "jacks and quills." Each tone has but one ſtring, according to the uſual ſtringing of the ſpinet. *Engliſh.* Latter half of the 17th century. Made by Thomas Hitchcock.[1] L., obliquely, 6 ft., W., in front, 4 ft. (Bought, 5*l.*) Depoſited in the Educational Department. (See the engraving, Fig. 133.)

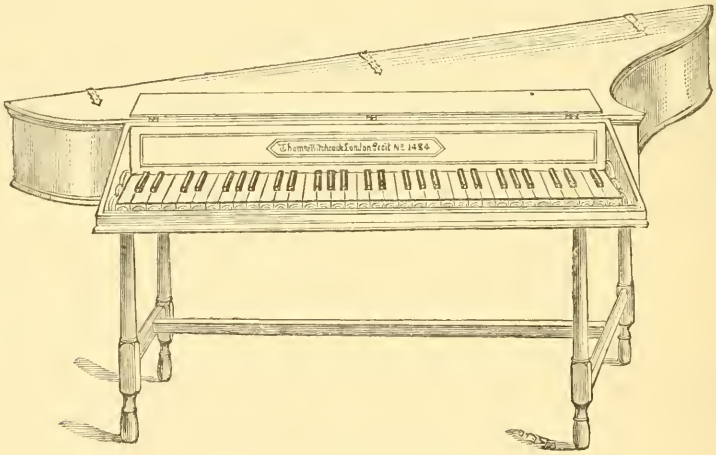


Fig. 133.—English Spinet.

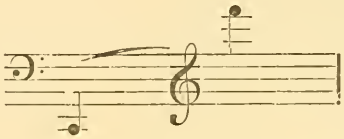
6007. '59.

CLAVICEMBALO. (Engliſh, *harpſichord ;* German, *Flügel ;* French, *Clavecin.*) In wooden caſe, the exterior painted with flowers, and the interior with the ſubject of Apollo and the Muſes, and with rich arabeſque ornamentation. *Italian.*

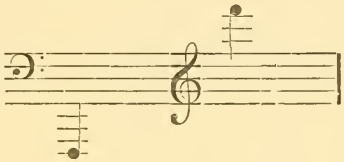
[1] The manufactory of Thomas Hitchcock muſt have been very productive, if we may judge from the number inſcribed over the key-board of the inſtrument, which is "1484," and muſt not be miſtaken for the date of the manufacture of this ſpinet.

Signed and dated, "Joanes Antonius Baffo, Venetus, 1574." L. 7 ft. 4 in., W. 3 ft., depth 9½ in. (Bought, 6*l.* 7*s.*)

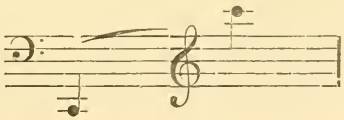
The compaſs of this inſtrument is nearly four octaves and a half, as follows :—



The *clavicembalo* (often deſignated merely *cembalo*) is called in German "Flügel," on account of its ſhape ſomewhat reſembling the wing of a bird. The largeſt *clavicembali* formerly in uſe generally had a compaſs of five octaves, thus :—



Each tone had three ſtrings, ſometimes even four, which were in uniſon, with the exception of one which ſounded an octave higher. The inſtrument was uſually ſupplied with ſome ſtops by means of which the quality of ſound could in ſome meaſure be modified. Furthermore, it was frequently made with two key-boards, one for the loud and another for the ſoft tones. The harpſichord made in England was preciſely of the ſame conſtruction. In fact, the beſt harpſichord makers in England were emigrants from the continent, and the founders of ſome of the great pianoforte manufactories ſtill flouriſhing in London. Burkhardt Tſchudi, for inſtance, a harpſichord maker from Switzerland, was the founder of Broadwood's celebrated manufactory, which dates from the year 1732. Kirkman, a German (who, before he eſtabliſhed himſelf in England wrote his name Kirchmann) ſold his harpſichords in London, according to the German Muſical Almanack for the year 1782, at the price of from 60*l.* to 90*l.* apiece. In the beginning of the eighteenth century many of the harpſichords made in England had, according to Graſſineau (Muſical Dictionary, London 1740), a compaſs of only four octaves, thus :—



However, already as early as in the 16th and 17th centuries, harpſichords or *clavicembali*, of a ſuperior quality, manufactured in Antwerp by Hans Ruckers and his ſons Jean and Andreas, were imported into England. The inſtruments of theſe celebrated Antwerp manufacturers were taſtefully embelliſhed, and the beſt Dutch painters not unfrequently enriched them with devices. The conſequence has been, that after the invention of the pianoforte, many of theſe old harpſichords were taken to pieces in order to preſerve the valuable panels. The price of a fine harpſichord by Ruckers, about the year 1770, was 120*l.*

The old *clavicembalo* by Antonio Baffo, of Venice, here exhibited, has ſlips of prepared leather inſtead of the uſual crowquills, which ſhows that the ſtatement of ſome writers as to Paſcal Taſkin in Paris being the firſt to uſe leather is erroneous. Taſkin, in conſtructing in the year 1768, the "Clavecin à peau de buffle," merely revived an old invention, which, however, he ſeems to have much improved. He made a *clavecin* with three key-boards, two of which were connected with actions conſtructed of crowquills, and the third with an action of leather. The modification in quality of ſound thereby obtained was greatly admired.

The invention of the *clavicembalo* as well as of the *clavicordo*, is by ſome old writers aſcribed to Guido Aretinus (or Guido d'Arezzo), the famous monk who is recorded to have invented, in the year 1025, the Solmiſation, and alſo to have firſt conceived the idea of employing lines and dots in the notation of muſical ſounds. Unauthentic though the tradition may be which aſſigns to Guido the invention of the ſtringed inſtruments with a key-board, it appears very probable that ſome rude kind of clavichord was firſt conſtructed about his time, or ſoon after.

The pianoforte, which now has entirely ſuperſeded the harpſichord, was firſt conſtructed at the beginning of the 18th century, in Italy and Germany. About the year 1767 it was from Germany introduced into England; but the Engliſh muſicians for a conſiderable period objected to it, and preferred to retain the harpſichord.

1121. '69.

CLAVECIN. *French.* Made by Paſcal Taſkin, at Paris, in the year 1786. The caſe highly ornamented with Japaneſe figures and gilding. The keys are ſmaller than the uſual ſize; the lower ones are of ebony, and the upper ones of

ivory. Compaſs, five octaves and a ſemi-tone. Each tone has two ſtrings. H. 2 ft. 9½ in., W. 2 ft. 7 in., L. 6 ft. 1 in. (Bought, 80*l.*)

Conſtructed with crowquills inſtead of the prepared leather which Paſcal Taſkin is known to have uſed. But it may be ſeen at a glance that the mechaniſm has recently been reſtored; the crowquills may, therefore, have been ſubſtituted for the worn-out leather.

1079. '68.

HANDEL'S Harpſichord. Caſe of deal, black japanned; with internal ornament of flowers painted, and inſcriptions in gold. Made by Andreas Ruckers, of Antwerp, 1651. H. 3 ft., L. of top, 6 ft. 8 in., W. 3 ft. (Given by Meſſrs. Broadwood.)

The following documentary evidence of this inſtrument's authenticity as Handel's harpſichord has been tranſmitted by Meſſrs. Broadwood :—

"33, Great Pulteney Street, London,
18th November 1868.

"Handel's harpſichord was bought by us of Mr. Hooper, a pianoforte tuner at Wincheſter, in 1852. He had obtained it from Dr. Chard, the Cathedral organiſt of that city, who had taken pains to prove it to be the ſame inſtrument which Handel had left by will to his friend and amanuenſis, Chriſtopher Smith. In Handel's will, dated June 1750, was the bequeſt:—'I give and bequeath to Chriſtopher Smith my large harpſichord, my little houſe-organ, my muſic books, and 500*l.* ſterling;' and in a codicil, dated 6th of Auguſt 1756: 'I give to Chriſtopher Smith 1,500*l.* additional to the legacy already given to him in my will.' Dr. Chard wrote to the Rev. George Coxe of Twyford (Rector of St. Michael's, Wincheſter) to obtain his teſtimony to the identity of this harpſichord with the '*Large Harpſichord*' of the will. Mr. Coxe was nearly related to Smith, and had frequently heard him play upon it. On the 13th of May 1842, and in the preſence of witneſſes, Mr. Coxe confirmed this. Dr. Chard ſtates in the document ſigned by Mr. Coxe, that this harpſichord was left with a large collection of Handel's MSS. by Chriſtopher Smith to his ſtepdaughter, the Dowager Lady Rivers, who parted with it to Mr. Wickham, a ſurgeon, who, in his turn, parted with it to the Rev.

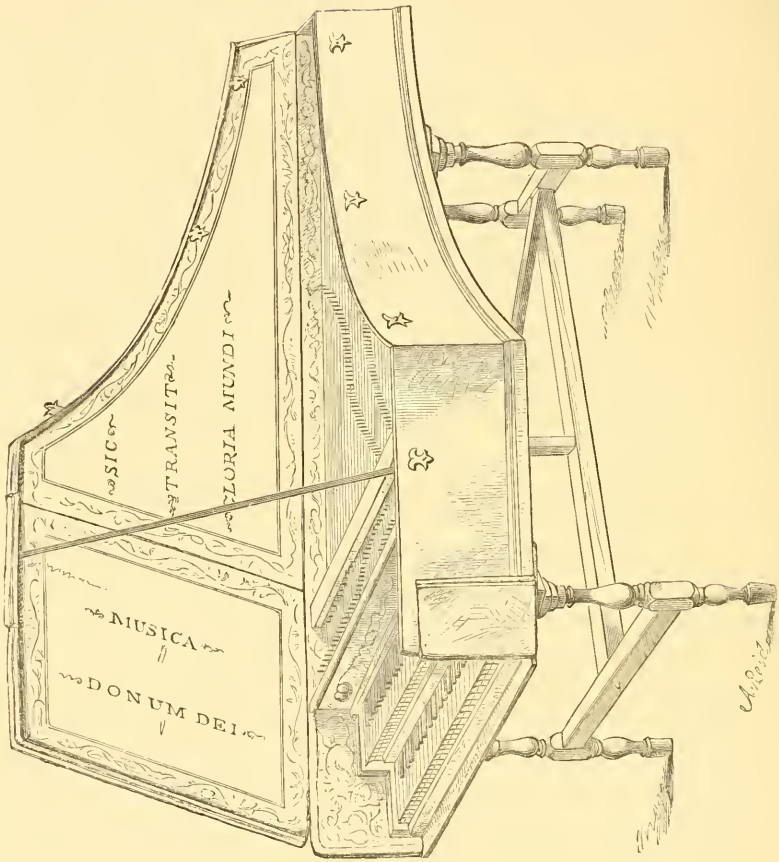


Fig. 134.—Handel's Harpsichord. (See page 279.)

Mr. Hawtrey, Prebendary of Winchester, after whose death it came into the possession of Dr. Chard.

This interesting relic of Handel is also worthy of notice from having been one of the best-constructed instruments of the celebrated harpsichord makers, the Ruckers family of Antwerp. It is not remarkable for any beauty of decoration beyond the conventional ornamentation of the period; but the structure shows great skill in the manufacture, and that the harpsichord had become nearly perfected in the middle of the seventeenth century.

The two key-boards were used for variety of tone. The lower key-board, the *jacks* of which acted upon two sets of strings in unison, and one set an octave higher, was the louder in tone; the upper key-board, acting on one set of strings only, was the softer. But the lower key-board could be made to act upon one set of strings only, by means of stops drawn out by the hand of the performer. In touching the keys, a distinctive quality of tone may still be recognized, particularly in the higher notes, a reedy but soft and delicate *timbre* testifying to the former beauty of the instrument. It may be assumed as certain that the keys are not of Handel's time. We do not know when the present key-boards were put, or by whom, but the style of the white and black keys is undoubtedly modern. Neither can it be doubted that there were originally keys in keeping with the fashion of the harpsichord, which we may suppose to have been worn out, to account for the substitution of those existing. The case of deal, black japanned, the brass hinges, the ornamentation, and the mottoes are original. Inside the top is inscribed,—

Sic transit Gloria Mundi;

on the flap or folding of the top,—

Musica Donum Dei;

and on the slip of wood above the upper keys,—

Andreas Ruckers me fecit, Antwerpiæ, 1651.

There is a date on the sounding-board '1651,' and in the ornamental sound-hole are the initials 'A. R.' Among the flowers represented on the sounding-board may be seen a concert of monkeys, one beating time, another playing the viol da gamba, etc. A third motto existed until about fifteen years ago—*Acta Virum Probant.* This was rubbed off by a workman engaged in mending the lock-board (upon which this motto was), which had been split.

As a musical instrument, this harpsichord has lived its life. It is not now capable of being tuned, and any attempt to improve the accord

of it might prove diſaſtrous by the ſounding-board giving way altogether. It is, therefore, of conſequence to the preſervation of the woodwork that tuning ſhould not be attempted.

JOHN BROADWOOD AND SONS."

Letter to the Rev. G. COXE, Twyford, Rector of St. Michael's, Wincheſter.

"My dear Sir,

Will you oblige me by certifying (if I am correct) the following:—

The celebrated Mr. Smith (or Schmidt) was Handel's private friend, and amanuenſis. This ſaid Mr. Smith was preſented by Handel with his favourite fine double-keyed harpſichord, made by the beſt maker of the day, Andreas Ruckers of Antwerpia, 1651. This ſaid inſtrument you have heard repeatedly Mr. Smith play on. Mr. Smith was father-in-law to you as well as your ſiſter, the late Dowager Lady Rivers; and at his death the ſaid harpſichord, together with a large collection of Handel's oratorios, etc., etc., MSS., came into the hands of the Dowager Lady Rivers. This inſtrument was parted with to a Mr. Wickham, ſurgeon, who parted with it to the Rev. W. Hawtrey, Prebendary of Wincheſter Cathedral, upon the death of whom I purchaſed it at the ſale of his effects; and in my poſſeſſion it ſtill remains. Is not this the identical inſtrument now ſpoken of? Your early anſwer to theſe queries, as the only living witneſs, will oblige.

Dear Sir,

Yours faithfully,

G. W. CHARD.

P.S.—Will you oblige me by certifying on this ſheet of paper, and returning it?

Anſwer.

I certify that the above ſtatement is correct, as far as my knowledge goes.

GEORGE COXE,

Twyford, May 13th, 1842.

Witneſs to the above ſignature—

Suſanna Gregg,

James Harris."

1739. '69.

HARPSICHORD. Black and gold Japan-work caſe. The ſound-board ornamented with paintings of birds, fruit, and flowers. The interior edge of the caſe and the front ornamented with tracing in white, on a black ground. The inſide of the cover ornamented with paintings of Bacchanals and grapes. Made by Ruckers, of Antwerp. Date 1639. L. 5 ft. 8 in., greateſt breadth, 2 ft. 6½ in. (Given by Meſſrs. Joſeph Kirkman and Son.)

This inſtrument was formerly the property of George III., and was removed from Buckingham Palace when Jacobus Kirkman ſent a new harpſichord for Queen Charlotte. The action and keys were deſtroyed at a fire which occurred at Meſſrs. Kirkman's manufactory in the year 1853.

629. '68.

SERINETTE. Bird organ. Beech wood veneered with ſatin wood and inlaid with marquetry of coloured woods repreſenting muſical inſtruments and foliage. Mounted in gilt metal. *French.* 17th century. H. 8⅛ in., L. 11⅛ in., W. 9 in. (Bought, 50*l.*)

The *ſerinette* was formerly uſed in France by ladies to teach airs to little ſinging birds, eſpecially to a kind of ſiſkin or canary, called in French *ſerin;* hence the name of the inſtrument.

2. '67.

ORGAN Poſitive. Chamber organ. In wooden caſe, carved, painted, and gilt, in renaiſſance ſtyle. On the inſide of the ſhutters are painted in tempera the Diſmiſſal of Hagar, and the Sacrifice by Abraham; and above the pipes an open-work ornament, with a medallion portrait and ſhield of John George, Duke of Saxony. The pipes are made of paper;

three ſtops. *German.* 16th century. H. 3 ft. 9½ in., W. 2 ft. 3½ in. (Bought, 40*l.*)

Organ pipes are uſually made of wood, or of a compoſition of tin and lead, which is called pipe-metal; but ſome centuries ago they were alſo made of copper, braſs, ſilver, gold, alabaſter, glaſs, clay, and occaſionally of paper.

The celebrated organ builder, Eugenius Caſparini, made, in the ſeventeenth century, at Vienna, an organ with ſix ſtops, all the pipes of which were of paper; and the Emperor Leopold I. gave him for this work of art 1,000 ducats and a golden ſnuff-box containing the emperor's portrait.

To enter at any length into the hiſtory of the organ would require much ſpace, and is hardly compatible with the object of the preſent catalogue. A few curſory remarks muſt therefore ſuffice.

The *organ poſitive* is diſtinguiſhed from the *organ portative* in ſo far that the former was a larger inſtrument, generally placed on a table and blown by an attendant, while the latter was carried about by the performer in religious proceſſions and on ſuch-like occaſions.

In England ſome rude ſpecies of organ is ſaid to have been uſed in public worſhip as early as about the middle of the ſeventh century. It was, however, on the continent, principally in Germany, that almoſt all the important improvements originated which gradually brought the organ to its preſent high degree of perfection. Many old organs of fine workmanſhip are ſtill extant in the churches of Germany. During the 18th century eſpecially ſeveral large organs of deſerved celebrity were built in that country; ſuffice it to inſtance thoſe of the brothers Andreas and Gottfried Silbermann. In England the important inventions of the continental builders were not readily adopted. Recently, however, ſeveral huge organs of very fine workmanſhip have been conſtructed in England, chiefly for uſe in concert rooms, or public halls.

The *regal*, often mentioned in Engliſh literature of the time of Shakeſpeare, and earlier, was a ſmall *organ portative.* There was till about the end of the laſt century a "Tuner of the Regals," in the Chapel Royal St. James's, with a ſalary of 56*l.* The name *regal* is ſuppoſed to have been derived from *rigabello*, a muſical inſtrument of which ſcarcely more is known than that it was played in the churches of Italy before the introduction of the organ.

The expreſſion "a payre of regalls," uſed by writers ſome centuries ago, evidently implies only a ſingle inſtrument. Thus alſo the virginal is not unfrequently mentioned as "a payre of virginalls." Moreover,

ORGAN POSITIVE. *German, XVI. Century.*

2. '67.

it appears that the regal was occaſionally made with two ſets of pipes, ſo as to conſtitute a double organ of its kind.

In the following lines from Sir W. Leighton's 'Teares or Lamentations of a Sorrowful Soule,' London, 1613, this little organ is mentioned in combination with other curious inſtruments now antiquated, moſt of which will be found in the preſent collection :—

> "Praiſe him upon the claricoales,
> The lute and ſimfonie :
> With the dulſemers and the regalls,
> Sweete ſittrons melody."

MEXICAN ANTIQUITIES.

1384–84*b*. '64.

WHISTLES. Three; in the form of heads of animals. Terra-cotta. *Ancient Mexican.* (Given by Captain Vanſittart, R.N.)

1385. '64.

WHISTLE. Model of a bird. Terra-cotta. L. 3 in. *Ancient Mexican.* (Given by Captain Vanſittart, R.N.)

The illuſtration, Fig. 55, exhibits three ſuch whiſtles which were conſtructed by the Aztecs. Some of theſe contrivances may be regarded rather as pipes than as mere whiſtles, ſince they yield about four tones, ſo that ſome ſimple tune can be played on them. The enclofure of a looſe ball, which is occaſionally found in the whiſtles of the Aztecs, was evidently effected in the ſame way as that of the balls in the earthenware rattle, *ajacaxtli*, noticed above, page 79.

Theſe relics are particularly intereſting when compared with the little pipe of baked clay which was found in the ruins of Babylon, *Birs-i-Nimroud*, and which is now in the Muſeum of the Royal Aſiatic Society, London. This pipe appears alſo to be intended to repreſent the head of an animal, and bears altogether much reſemblance with the

ancient American whiſtle. It meaſures about three inches in length, and has two finger-holes ſituate ſide by ſide, and conſequently equidiſtant from the end at which it is blown. The oppoſite end has no opening; the inſtrument in this reſpect reſembles a whiſtle. By ſome little contrivance about five tones are obtainable, but the natural tones of the inſtrument are only the tonic, the third, and the fifth. If both finger-holes are cloſed it produces the tonic, if only one of them is cloſed it produces the third, and if both are open it produces the fifth. Moreover, it is remarkable that the third obtained by cloſing the left finger-hole is about a quarter-tone lower than the third obtained by cloſing the right finger-hole. This intereſting Babylonian relic is in as well-preſerved condition as any of the Aztec whiſtles, notwithſtanding its high antiquity. A notation of the tones producible on the latter is given in the preceding Eſſay on the Hiſtory of Muſical Inſtruments, page 67.

APPENDIX No. 1.

INSTRUMENTS LENT FOR EXHIBITION.

VIOLIN. Boxwood, carved with woodland ſcenes. *Engliſh.* Dated, 1578. (Lent by the Earl of Warwick.)

This violin is ſaid to have been given by Queen Elizabeth to the Earl of Leiceſter, and the arms of both theſe perſonages are engraved on ſilver on the finger-board. The inſtrument is mentioned by Hawkins and alſo by Burney; the former gives a drawing of it in his 'Hiſtory of Muſic,' London, 1776, vol. iv. p. 342. He ſays, "At a ſale by auction of the late Duke of Dorſet's effects a violin was bought, appearing to have been made in the year 1578, which, though of a very ſingular form, and encumbered with a profuſion of carving, was eſſentially the very ſame inſtrument with the four-ſtringed violin. The dimenſions of the inſtrument are as follows:—From the extremity of the tail-pin to the dragon's head, two feet; length of the belly thirteen inches. Over the pins is a ſilver gilt plate that turns upon a hinge, and opens from the nut downwards; thereon are engraved the arms of England, and under them, encircled by a garter, with the uſual motto, the bear and ragged ſtaff, and an earl's coronet at the top. The bear and ragged ſtaff was the cognizance of the Nevils, Earls of Warwick. Robert Dudley, Earl of Leiceſter, who derived his pedigree from them, took it for his creſt (ſee Fuller's 'Worthies of Warwickſhire,' p. 118). This agrees with a tradition concerning it, that the inſtrument was originally Queen Elizabeth's, and that ſhe gave it to her favourite, the Earl of Leiceſter, which is not improbable, ſeeing

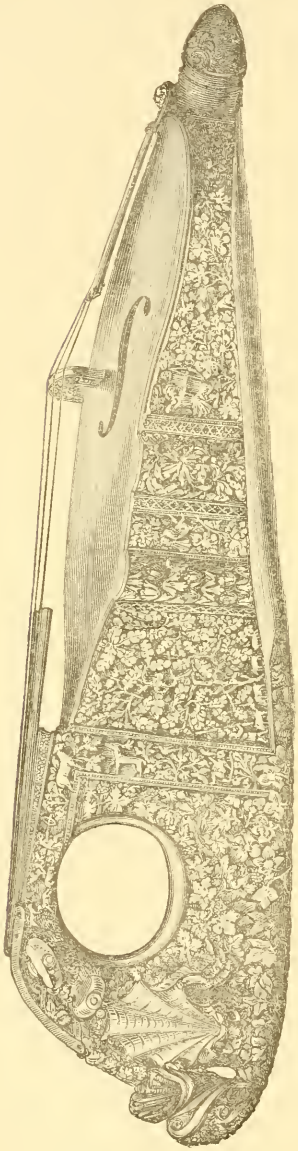


Fig. 135.—Violin. English. Dated 1578. Lent by the Earl of Warwick. (See page 287.)

that her arms are alſo upon it. In the tail-pin is inſerted a gilt ſilver ſtud, to which the tail-piece is looped, with a lion's face curiouſly wrought on the top; this is ſecured by a nut which ſcrews to it on the under ſide of the inſtrument, whereon are engraven theſe letters and figures I $\frac{15}{78}$ P ſuppoſed to ſignify the year when it was made and the initials of the maker's name. The ſubject of the carving on the deepeſt part, and on the ſide above preſented to view, is a man with an axe ſtanding on the ground, and working upon ſome fallen branches of an oak tree. On the oppoſite part are repreſented hogs under an oak tree, and a man beating down acorns; the reſt of the carving is foliage; the whole is in alto relievo. Under the carving is a foil of tinſel or ſilver gilt. The back of the inſtrument is not curved, but forms a very obtuſe angle, and from the bottom of the back, extending to the back of the dragon's head, the carving, which is very bold, conſiſts of oak foliage. Notwithſtanding the exquiſite workmanſhip of it the inſtrument produces but a cloſe and ſluggiſh tone, which, conſidering the profuſion of ornament, and the quantity of wood with which it is encumbered, is not to be wondered at."

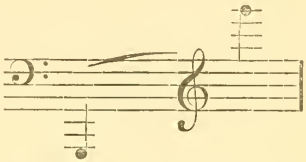
Burney, in his 'Hiſtory of Muſic,' London, 1789, vol. iii. p. 16, ſays: "The inſtrument is at preſent the property of Mr. Bremner, in the Strand. It is very curiouſly carved, but the ſeveral parts are ſo thick, and loaded with ornaments, that it has not more tone than a mute, or violin with a ſordine; and the neck, which is too thick for the graſp of the hand, has a hole cut in it for the thumb of the player, by which the hand is ſo confined as to be rendered incapable of ſhifting, ſo that nothing can be performed upon this inſtrument but what lies within the reach of the hand in its firſt poſition."

It has been ſuggeſted that this violin is the work of J. Pemberton, a maker of ſome celebrity in London about the year 1580; but there ſeems to be no other indication in ſupport of this opinion than the initials above mentioned. On the other hand, we have the opinion of an authority that the wood carving is ſome centuries older than the upper portion of the inſtrument, and that it dates from about 1330. This violin may therefore be a reconſtruction of an older inſtrument of the violin kind.

The Muſeum contains alſo an electrotype reproduction of this intereſting relic, which has been made by Meſſrs. Franchi and Son.

HARPSICHORD. Painted and gilt caſe with carved legs. The painted decoration conſiſts of medallions containing ſubjects referring to muſic and paſtoral life, connected by deſigns of flowers and birds. *French* or *Italian.* 17th century. (Lent by a gentleman.)

SPINET. *Engliſh.* Made by Joſeph Mahoon. About the middle of the 17th century. Compaſs, five octaves, thus:—



(Lent by C. H. Thorpe, Eſq.) Depoſited in the Educational Department.

MINIATURE Virginal. Combined with a little cabinet. Ebony, inlaid with ivory. Compaſs, three octaves and two ſemitones. (Lent by Signor Caſtellani.)

HARP. Conſtructed ſo as to admit of being tuned by either hand; made by the inventor Dizi, in the early part of the 19th century. (Lent by C. H. Thorpe, Eſq.)

HARP, carved, and painted with landſcape ſubjects, trophies of muſical inſtruments, &c., and flowers. *French.* About 1750. (Lent by Mrs. Jackſon.)

TRIPLE Harp. Welſh. 18th century. (Lent by Lady Llanover.)

This harp (Welſh, *telyn*) is the work of John Richards, of Rhiwabon, a Welſh harp-maker of reputation during the firſt half of the eighteenth century. He made the harp of John Parry of Rhiwabon, the famous blind Welſh harper, and the original of Gray's 'Bard,' and he was ſo celebrated for the combs of his harps that "Old Parry's Curve" became proverbial in Wales from the harps built by John Richards for Blind Parry.

The inſtrument is triple-ſtringed, or in other words, it has three rows of ſtrings. The two outer rows are tuned in uniſon, according to the diatonic ſcale, and the inner row contains the chromatic tones. The chief advantage of having the two outer rows in uniſon, or two ſounds for each interval of the diatonic ſcale, appears to be that it enables the performer to ſuſtain a tone at pleaſure for any length of time by ſtriking the two ſtrings which are in uniſon alternately in regular and rapid ſucceſſion. Of courſe the tone cannot in this way be ſo equally ſuſtained as on a violin or flute; it rather partakes of the nature of the prolonged ſound which pianiſts produce by means of the repetition action on the pianoforte, a kind of *tremolo* which, as is well known, Thalberg has often made uſe of in "ſinging" a melody on the pianoforte. No doubt the old Welſh harpers muſt have required much practice to enable them to produce a continuous ſound which did not tremble exceſſively, and the evident difficulty in acquiring the knack may be the reaſon why we find the effect ſo little employed in the Welſh muſic for the harp by Edward Jones and others of the laſt century, when the triple ſtringed *telyn* was ſtill in popular favour.

The introduction of ſpecial ſtrings on the harp for the chromatic intervals, ſo as to enable the performer to produce them without the expedient of ſhortening the ſtrings with his fingers, or by means of a mechaniſm, appears to have ſuggeſted itſelf ſome centuries ago to ſeveral nations. A harp with the compaſs of above ſix octaves, like our preſent one, if it were conſtructed with the chromatic ſtrings between the diatonic ones, would be too broad, and the ſtrings would neceſſarily be ſo cloſe together as to render it extremely difficult to play. Attempts to conſtruct a harp with chromatic ſtrings have, however, been occaſionally made. Of this deſcription was, for inſtance, the *chromatiſche harfe*, conſtructed in the year 1804 by Pfranger, a phyſician in Schleuſingen, Germany. Its compaſs embraced five octaves. The ſtrings for the

chromatic intervals were of a different colour from thofe conftituting the diatonic fcale, and were placed lower in the frame than the latter. Perhaps this contrivance fuggefted itfelf to its manufacturer from his having become acquainted with the Welfh triple harp. We find, however, as early as in the year 1605, Luca Antonio Euftachio, a chamberlain of Pope Paul V., recorded as the inventor of a harp with three ftrings for each tone, which perhaps was likewife to fome extent an imitation of the old Welfh triple harp.

SORDINO or Pochette. Wood, with carved female head at the top. Four ftrings. In a leathern cafe. *French.* Dated 1647. (Lent by J. Hare, Efq.)

HUNTING Horn. 16th century. (Lent by Signor Caftellani.)

ZINKEN. Wood, coated with leather. *German.* 17th century. (Lent by R. Burchett, Efq.)

The Italians call it *cornetto curvo.* A fhort defcription of this inftrument has already been given, page 230. In Shakefpeare's 'Merchant of Venice' (Act II., Scene 5) Shylock fpeaks of "the vile fqueaking of the wry-neck'd fife," probably referring to the *cornetto curvo* (German, *krummer zinken*). The *cornetto diritto* (German, *gerader zinken*) differed from it only inafmuch as it was ftraight like a flute. Each had ufually feven finger-holes. The mouth-piece, which refembled that of the trumpet, was often made in one piece with the inftrument. The fmalleft fpecies of *zinken* called *cornettino*, the tone of which was rather fhrill, was often played on the continent in the ftreets during public feftivities and in proceffions.

HAND Bell. Silver gilt; the upper part covered with openwork ornament jewelled and enamelled, and fur-

mounted by a ſtatuette of a man blowing a horn. *German.* 17th century. (Lent by J. Furley, Eſq.)

PIB-GORN, or Hornpipe. An inſtrument of the oboe family. In the inſide is a reed. *Welſh.* Early 18th century. (Lent by C. Wynne Finch, Eſq.)

Fig. 136.—PIB-GORN. Welſh.

The *pibgorn* was formerly popular with the ruſtics in Wales. It is made of horn, meaſures about 18 inches in length, and has ſeven finger-holes. The reed concealed within it reſembles the reed of the hautboy. The *pibgorn* is ſtill occaſionally met with in the Iſle of Angleſea, where it is played by the ſhepherds. A ſpecies of country dance, termed *hornpipe*, originally derived its name from being commonly danced to this inſtrument, *pibgorn* ſignifying *hornpipe*. Edward Jones ('Muſical and Poetical Relicks of the Welſh Bards,' London, 1794) mentions another Welſh inſtrument of this kind, "a ſort of pipe uſed in ſome parts of South Wales, called *cornicyll* (from *cornig*, a diminutive of *corn*) which has a concealed reed on the ſame principle as the *pibgorn*, and the mouth-piece ſcrews off in order to introduce the reed; in other reſpects this inſtrument is made like a common clarinet." From this account it would appear that the *cornicyll* was provided with a ſingle reed, and not with a double reed like that of the *pibgorn*.

The *ſtockhorn*, which the paſtoral people in Scotland formerly conſtructed, is ſimilar to the Welſh *pibgorn*. In the 'Complaynt of Scotland,' which was written in the year 1548, we find the *cornepipe* enumerated among the paſtoral inſtruments played by eight ſhepherds: "The fyrſt had ane drone bagpipe, the nyxt hed ane pipe maid of ane bleddir and of ane reid, the third playit on ane trump, the feyerd on ane corne pipe, the fyfth playit on ane pipe maid of ane gait horne, the ſext playt on ane recordar, the ſevint plait on ane fiddil, and the laſt plait on ane quhiſſel."

CRWTH. An inftrument of the fiddle kind formerly popular in Wales, but now almoft fallen into oblivion. It was played with a bow, and twanged with the thumb of the left hand. (Lent by C. Wynne Finch, Efq.)

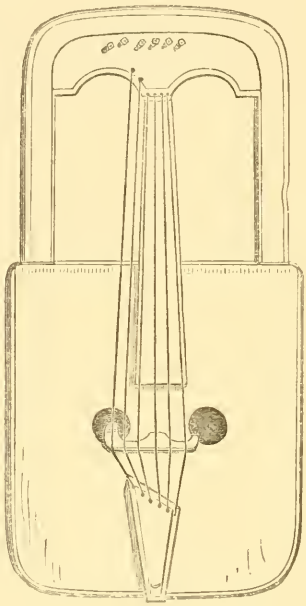


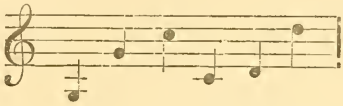
Fig. 137.—Crwth. Welfh.

This *crwth* was found in the Ifle of Anglefea. It had the following infcription on a label in the infide :—

Maid in the paris of
anirhengel by Richard
Evans Inftruments maker
In the year 1742.

It is, however, probably older than the date here given, and may have been only repaired by Richard Evans. Another repair it has undergone in the year 1871, but efpecial care has been taken to reftore it exactly to its original condition. This interefting inftrument is cut out of one block of wood, excepting the belly, which is glued on. Its dimenfions are : length, 22 inches ; width, $9\frac{1}{2}$ inches ; depth, 2 inches.

The finger-board is 10¼ inches long. The belly has two circular ſound-holes, as ſhown in the annexed engraving. The top of the bridge is very flat, and as the ſides of the *crwth* are without incurvations, it is almoſt impoſſible to apply the bow to any ſtring ſingly. From its peculiar arrangement in the tuning of the ſtrings it would appear that two ſtrings, conſtituting an octave, were uſually intended to be ſounded together. The *crwth* is ſtrung with ſix catgut ſtrings, two of which run at the ſide of the finger-board, and are therefore unalterable during the performance. The ſtrings are tuned as follows :—



The two ſtrings for *g* and its octave, which run at the ſide of the finger-board, are generally vibrated with the thumb of the left hand, and ſerve chiefly as an accompaniment to the tones produced on the other ſtrings by the bow. The *crwth* has no ſound-poſt ; however, one foot of the bridge in ſome meaſure ſerves for it by extending through one of the ſound-holes ſo as to reſt on the back inſide the inſtrument. The other foot of the bridge, which is proportionally ſhorter, is placed on the ſound-board near the other ſound-hole. The poſition of the bridge is not at right angles with the ſides of the body, but ſomewhat oblique.

Some account of the antiquity of the *crwth* is given in the preceding Eſſay on the Hiſtory of Muſical Inſtruments, page 99. Towards the end of the 18th century there was ſtill a ſkilful player on the *crwth* to be met with in Wales. At the preſent day it ſeems to have been entirely ſuperſeded by the violin.

SOUNG. A harp. Carved and gilded body and neck. Silken ſtrings. On carved wood ſtand. *Burmeſe.* (Lent by Henry Willett, Eſq.)

NINE wind inſtruments, of zinc and copper, chiefly in twiſted ſerpent form. *Burmeſe.* From the Edinburgh

Muſeum of Science and Art. Lent. Theſe inſtruments were brought to Edinburgh by an officer of the Britiſh Expedition in the Burmeſe war of 1824–25.

TRUMPET. Formed of a human thigh-bone. Uſed by the Bhooteas as a ſacred inſtrument. (Lent by William Tayler, Eſq.)

Similar trumpets are uſed in the temples by the Lamas or Buddhiſt prieſts of Sikkim, Himalaya. The thigh-bone is perforated through both condyles. It is very often the bone of a lama, and is conſidered valuable in proportion to its length. "It is reported at Darjeeling," Dr. Hooker ('Himalayan Journal,' London 1854) remarks, "that one of the firſt Europeans buried at this ſtation, being a tall man, was diſinterred by the reſurrectioniſt Bhooteas for the ſake of his trumpet bones." It is ſometimes taſtefully mounted with ſilver. Alſo the Lamas of the Kalmucks in the South of Ruſſia uſe, according to Julius Klaproth, ſuch a trumpet in their religious ceremonies. They call it *gangurih*, and it is generally made of the long arm-bone of a ſlain enemy.

TOOTOOREE. A trumpet. In common uſe in the temples in Bombay. *Indian.* Modern. (Lent by Sir Bartle Frere, K.C.B.)

The Brahmins, or prieſts attached to Hindu temples, uſe ſeveral kinds of trumpets in religious proceſſions, and in feſtivals in honour of their divinities. The largeſt kind is called *kurna.*

TZETZE. An inſtrument of the Somali, Eaſt Africa, South of Abyſſinia. Modern. It is formed of a carved ſtick, a gourd, and a ſingle ſtring. (Lent by Sir Bartle Frere, K.C.B.)

The *tzetze* is alſo to be found in Zanzibar and other diſtricts of eaſtern Africa. Its ſtring is generally made of the fibre of the Raphia Palm, and by means of the frets ſix different tones are producible on moſt of theſe inſtruments.

ZANZE. A wooden box, carved, and having at the top a number of iron tongues which the performer vibrates with his thumbs. *Weſtern Africa.* (Lent by Henry Willett, Eſq.)

Fig. 138.—Zanze. Weſtern Africa.

Rude inſtruments made of vibrating tongues, either of hard ſonorous wood or of metal, are eſpecially common with the negroes. The *zanze*, or *ſanſa*, is to be found principally among the Negro tribes of upper and lower Guinea. Similar inſtruments are the *kaſſangah* at Delagoa Bay and in the neighbouring diſtrict, South-eaſtern Africa; the *ibeka* of

the Bakalai, a Negro tribe in Weſtern Africa near the Gaboon river; the *ambira*, popular at Mozambique, Eaſt Africa; the *viſſandſchi*, at Congo and Benguela; and others. As regards the uſual arrangement of muſical intervals on this claſs of inſtruments, the ſpecimens which have been brought to Europe are rarely in a condition to enlighten the inquirer. In ſeveral of them the tongues were inſerted ſo as to allow their being puſhed deeper into the wood, or drawn out to a greater length, at pleaſure. Perhaps this is an expedient for the purpoſe of tuning them in conformity with any particular melody which the performer wiſhes to play, and which, as the Negro melodies are generally very ſhort, he may produce by means of the tongues thus arranged, if he vibrates them in ſucceſſion, meanwhile obſerving the rhythm of the melody. At any rate, there are other inſtruments among uncivilized nations in which the tones appear to be regulated with this object rather than for the introduction of a regular muſical ſcale.

REBAB; alſo called *kemangeh*. With bow, ornamented. Two-ſtringed. The body of wood, over which parchment is ſtretched, with carved neck, and recurved head. The bow inciſed and inlaid with pieces of coloured cloth under glaſs. Province of Suz, *Southern Morocco*. 19th century. (Lent by T. Blackmore, Eſq.)

FLUTE and Tobacco Pipe, combined. Formed of a cocoa-nut ſhell with two engraved canes. Obtained from an itinerant muſician at Fez, *Northern Morocco*. (Lent by T. Blackmore, Eſq.)

DERBOUKA (or *Darabouka*). A ſmall ſpecies of hand-drum. Painted earthenware, vaſe-ſhaped; the top covered with painted bladder. It is played by ſtriking with

the fingers. Tetuan, *Northern Morocco.* 19th century. (Lent by T. Blackmore, Esq.

TEBEL (or *Tabl.*) Drum. Formed of a cylinder of glazed earthenware with blue decoration, one end covered with bladder. From Fez, *Northern Morocco.* (Lent by T. Blackmore, Esq.)

TOBILETS. Double Drum. Formed of two earthen jars covered with hide, and united by thongs of the same material. From Fez, *Northern Morocco.* (Lent by T. Blackmore, Esq.)

DAÏKO. Drum. Wood; the sides covered with parchment painted with dragons. *Japanese.* 19th century (Lent by Marcus Flowers, Esq.)

GUNIBRY. An instrument of the tamboura family. With plectrum. Two-stringed. The body of wood, over which parchment is stretched. *Morocco.* (Lent by T. Blackmore, Esq.)

GONG. Large, bronze, with central boss. *Northern Shan States, Asia.* (Lent by Major E. B. Sladen.)

GONG. White metal. Used by the Shans and Burmese. (Lent by Major E. B. Sladen.)

GONG. Small. White metal, with central boſs. *Northern Shan States.* (Lent by Major E. B. Sladen.)

GONGS. Two, white metal. *Chineſe.* (Lent by William Tayler, Eſq.)

BELL. Bronze, ſuſpended in carved wooden frame. *Chineſe.* (Lent by William Tayler, Eſq.)

BELLS. Bronze and iron. *Burmeſe.* (Lent by William Tayler, Eſq.)

Theſe bells are ſuſpended from the roofs of the Buddhiſt temples. Attached to the clapper is a thin metal plate ſhaped like a leaf. A moderate current of air is ſufficient to cauſe the bell to ring. The cuſtom of adorning the temples with theſe bells is evidently very ancient. Sir Stamford Raffles found ſuch a bell in the ruins of a temple in Java. Marco Polo, who travelled in Aſia during the ſecond half of the 13th century, ſaw in a town of Burmah called Mien, which is ſuppoſed to have been Ava, two towers of pyramidical ſhape, conſtructed of marble, which ſtood near the ſepulchre of a king; each tower terminated in a ball, around which were ſuſpended ſmall bells, deſcribed by Marco Polo as being of gold and ſilver, but which moſt likely were of bronze gilt. When agitated by the wind they made a continual tinkling. A recent traveller in China deſcribes a Pagoda in the vicinity of Shanghai as follows: "It conſiſts of eight ſtories, each about 15 feet in height, making with the dome and ball its total elevation 150 feet. Its ſhape is octagonal, and each ſtory is provided with a covered verandah, having a projecting roof, at the corners of which are hung ſmall bells of different tones, and as there are 64 of them, which are kept in almoſt conſtant motion by the wind, the ſound they produce is exceedingly pleaſing, greatly reſembling the wild Æolian harp."

BELL. Mixed metal, with handle in form of the *Dorjé*, or ſacred thunderbolt. *Nepauleſe.* (Lent by William Tayler, Eſq.)

The ſcepter (*dorjé*, *i.e.* "thunderbolt") is held in the hand by the Buddhiſt prieſt during prayer. The ritualiſtic inſtruments of the Buddhiſt prieſt in Ladák, or Middle Thibet, are three, viz.: the bell, *drilbu*; the ſcepter, *dorjé*; and the prayer-cylinder, *mani-chhoo-khor* (*i.e.* "the precious religious wheel"). The *drilbu* is tinkled during the performance of daily ſervice. It is depicted in the left hand of the great Lama, Skyobba Jigten, of the red ſect; and it is placed on the throne at the feet of the great Dalai Lama, Navang Lozang.

BELLS. Five, ſacred, braſs. *Indian.* (Lent by William Tayler, Eſq.)

Theſe hand-bells are of the kind called *ghunta* uſed by the Brahminic prieſts. Scarcely any ſacrifice or oblation is performed by them in the temple without a preliminary tinkling of the *ghunta*, which is repeated at certain intervals according to the ritual. The handle of the *ghunta* not unfrequently repreſents the figure of Hanumun, one of the Hindu deities.

DRUM. *Engliſh.* Modern. (Lent by Meſſrs. Rudall, Roſe, Carte, and Co.) Depoſited in the Educational Department.

CONCERTINA. With twenty-four keys. *Engliſh.* Modern. (Lent by Meſſrs. C. Wheatſtone and Co.) Depoſited in the Educational Department.

CONCERTINA. With forty-eight keys. *Engliſh.* Modern. (Lent by Meſſrs. C. Wheatſtone and Co.) Depoſited in the Educational Department.

ORGAN Accordion. Invented by Haſkin. *Engliſh.* Modern. (Lent by Meſſrs. Chappell and Co.) Depoſited in the Educational Department.

COTTAGE Harmonium. In oak caſe. *Engliſh.* Modern. (Lent by Meſſrs. Chappell and Co.) Depoſited in the Educational Department.

HARMONIUM. Poliſhed deal. Four octaves. As uſed in Swediſh ſchools, and coſting in that country 4*l.* 14*s.* 5*d.* Made by A. G. Wildgren, of Stockholm. From the Swediſh School Houſe in the International Exhibition of 1871. Depoſited in the Educational Department.

HARMONIUM. In mahogany caſe. Five octaves. *Engliſh.* Modern. (Lent by Mr. J. Hillier.) Depoſited in the Educational Department.

CHROMATIC Harmonium. Roſewood. Peculiarly conſtructed keyboard, "ſhowing the twenty-four progreſſions. The common method is ſeen at the back of the inſtrument in connexion with the keys." *Engliſh.* Modern. (Lent by Mrs. Read.) Depoſited in the Educational Department.

SOL-FA Harmonicon. Invented by Miſs Glover. Intended as an aſſiſtance in learning ſinging, and the theory of muſic. *Engliſh.* Modern. (Lent by Miſs Glover.) Depoſited in the Educational Department.

CHROMATIC Pianoforte. Roſewood. Peculiarly conſtructed key-board, in which the keys are diſtinguiſhed by different colours. Intended to facilitate the playing in the different major and minor keys. *Engliſh.* Modern. (Lent by Mrs. Read.) Depoſited in the Educational Department.

BIJOU Pianoforte. In polifhed afhwood cafe. *Englifh.* Modern. (Lent by Meffrs. J. and J. Hopkinfon.) Depofited in the Educational Department.

PIANOFORTE. With check action. In black walnut cafe. *Englifh.* Modern. (Lent by Meffrs. Chappell and Co.) Depofited in the Educational Department.

PIANOFORTE (called by its maker "Euphonicon"). Steward's patent. The cafe is rofewood. The ftrings are ftretched on an iron frame, which rifes upward in harp-like fhape, and behind which are three found-boards of fatin-wood, in form fomewhat refembling that of the violin. *Englifh.* About 1840. (Lent by the Rev. H. R. Haweis.)

In the year 1841, John Steward took out a patent for "applying to the pianoforte found-boards on frames, and affixing fuch frames at intervals to the iron frame which bears the ftrain of the ftrings. In the inftance fhown there are three found-boards, the treble, the tenor, and the bafs, the latter being confiderably larger than either of the others, and fitted to the largeft compartment of the frame."

ORGAN Pipes. A felection in illuftration of their manufacture, fhowing the middle C pipe of each ftop. *Englifh.* Modern. (Lent by Meffrs. Speechly and Ingram.) Depofited in the Educational Department.

INSTRUMENTS LENT BY MR. CARL ENGEL.

Purpose of the Collection.

THIS collection was formed for the purpoſe of illuſtrating the characteriſtics of the muſical inſtruments which were uſed by our forefathers, and which are now fallen into oblivion. The collection compriſes the moſt popular kinds from the time of Queen Elizabeth until the beginning of the preſent century. The inſtruments are, with a few exceptions, in their original condition. Wherever an alteration has been made by modern hands it will be pointed out in the following account. Unimpaired ſpecimens of ſome kinds are, indeed, now rarely met with; generally, they have been altered in the courſe of time to fit them to modern requirements; and thoſe which have eſcaped modernization are, in ſome inſtances, in ſo dilapidated a condition as not to allow of being ſtrung and played upon in the old way. It may, therefore, be intereſting to muſicians to examine the preſent collection.

The ſpecial aim has been to illuſtrate the various claſſes of ſtringed inſtruments. Not only were the ſtringed inſtruments more univerſally employed, in ſocial circles, than the wind inſtruments and the inſtruments of percuſſion, but they are alſo, on the whole, the moſt important in muſical performances. At any rate, it is eſpecially through an acquaintance with the ſtringed inſtruments of our anceſtors that we are able to obtain an accurate impreſſion of the characteriſtics of the inſtrumental performances of the olden time.

In the belief that further reſearches will more and more eſtabliſh the opinion that by far the greater number of our muſical inſtruments had their origin in the Eaſt, ſeveral rude inſtruments have been placed in the collection, belonging to Aſiatic and other extra-European nations, which will enable anyone intereſted in this queſtion to form his own opinion upon it. Theſe foreign inſtruments will be deſcribed firſt, in order to ſhow the gradual progreſs from primitive to elaborate contrivances.

EXTRA-EUROPEAN INSTRUMENTS.

(1.)

BONE-FLUTE of the Caribi Indians in Guiana. Confifts merely of the bone of a jaguar, into which three finger-holes have been bored. The mouth-hole, which is at one end, is partly filled with a dark cement to narrow the aperture. A tuft of bright-coloured feathers is generally attached, by way of ornament, to a ftring tied to the bone. *South American.* Modern.

This inftrument has at all events the merit of being the leaft pretentious one in the collection. The ancient American Indians not unfrequently ufed the bones of flain enemies for fuch flutes; and fome tribes in South America are faid to have preferved this cuftom even to the prefent day.

(156.)

DANCING Rattles of the Indians in the vicinity of the river Amazon, *Brazil.*

They are made of a fpecies of nut, a number of which are hollowed and fufpended on a cord to be hung over the fhoulders. By way of embellifhment fome bright feathers and the tail of a quadruped are interfperfed between the nuts.

(146.)

BELAPELLA. A rattle of the Indians of Vancouver Ifland, *North-weftern America.* Of wood, formed in imitation of a bird, and painted with different colours. Containing pebbles. Ufed by the "Medicine men."

(147.)

BELAPELLA. A rattle of the Indians of Vancouver Ifland. Of wood, formed in imitation of a fifh, and coloured. *North-weftern America.*

(155.)

SAKASAKA. A rattle of the Negroes of Santa Lucia, Weſt Indies. Ornamented with ſome rude deſigns cut on the ſurface. It contains in the inſide a number of ſmall red berries of an oval ſhape, known as Jamboo berries.

(62.)

MAROUVANÉ. Bamboo inſtrument from *Madagaſcar*. L. 1 ft. 9 in. The ſeven ſtrings are cut out of the bark of the bamboo, and are raiſed by bridges conſiſting of little plugs of wood.

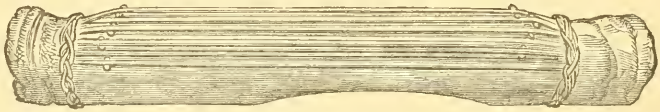


Fig. 139.—MAROUVANÉ. Madagaſcar.

The *marouvané*, alſo called *valiha*, has often affixed beneath it a palm leaf, in the ſhape of a baſket, which is perhaps intended to ſerve as a ſound-board. The tone is, however, as might be expected from the nature of the ſtrings, by no means brilliant. But, as regards outward appearance, the *marouvané* deſerves to be claſſed with the moſt ſingular muſical inſtruments. The natives of Madagaſcar are ſaid to be as much faſcinated by its ſound as the Swiſs are by the ſound of the Alphorn. Similar inſtruments are the *ſouſounou*, or *akadu*, conſtructed by the natives of the iſland of Timor, and the *gendang boeloe* of the Battahs in Sumatra. Alſo the Dyaks in Borneo conſtruct a ſtringed inſtrument of bamboo which reſembles the *marouvané*.

(2.)

GUNIBRY. A rather primitive inſtrument of the guitar kind, played with a quill ſplit in two. Its body conſiſts

of the half of a bottle-pumpkin covered with ſheep's ſkin, and its two ſtrings are of catgut. *Morocco.* Modern.

The *gunibry* is alſo found in Algiers, where it is ſaid to have been introduced from Morocco.

(3.)

GUNIBRY. The body conſiſts of the ſhell of a tortoiſe, *Morocco.* Modern.

This contrivance is not uncommon, and is evidently of high antiquity. Hermes made his lyre of a tortoiſe which he found near the Nile.

(4.)

SMALL Kuitra. Like the *gunibry* an inſtrument of the Arab deſcendants in *Northern Africa*, chiefly uſed in Tunis. It has three pairs of catgut ſtrings. Modern.

The larger and more common *kuitra*, popular in Tunis, has four pairs of ſtrings. Each pair is tuned in uniſon, and the inſtrument is played with a little plectrum. The body of the preſent ſpecimen conſiſts of the ſhell of a tortoiſe.

(63.)

INGOMBA. A negro drum from Lower Guinea, *Weſtern Africa.* Made of the ſtem of a palm tree 6 ft. 6 in. long. Covered at both ends with the ſkin of an elephant's ear.

(135.)

VALGA. From Congo, *Weſtern Africa.* It has five ſtrings, made of a vegetable fibre, which are tuned by being wound round five canes inſerted in the body. L. 3 ft.

The *valga* is known by different names in different diſtricts of Weſtern Africa. In Benguela it is called *kiſſumba*, and near the Gaboon river, *wambee*.

(5.)

KASSO. A negro inſtrument. The body made of a huge pumpkin, the ſtrings of the tough fibres of a creeping plant. *Senegambia.* Modern.

One or two of the ſtrings, which were broken, have been replaced by catgut ſtrings.

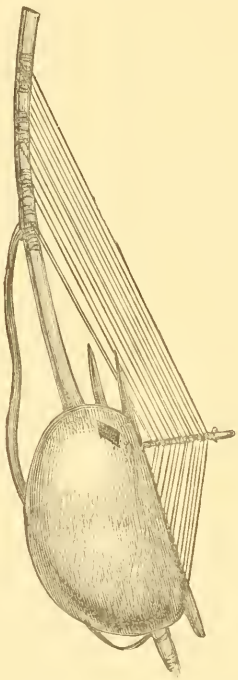


Fig. 140.—Kasso. A Negro Inſtrument.

(6.)

SANCHO. The body of wood covered with ſnake's ſkin. *Senegambia.* Modern.

It has ivory tuning pegs not unlike thoſe of a violin, and there is an F-hole on one ſide of the body; from which one might conclude that the negro manufacturer of this inſtrument had taken a hint from ſeeing a European fiddle. Generally, the *ſancho* is tuned by means of movable rings, like the *kaſſo*. At leaſt, ſuch is the contrivance of ſeveral of theſe inſtruments which have been brought to England from different parts of Weſtern Africa.

(7.)

TAMBOURA baghlama. Four wire ſtrings, which are twanged with a plectrum. *Egyptian.* Modern.

The *tamboura baghlama* may be regarded as the Eaſtern mandoline. *Baghlama* ſignifies "ſmall," and this inſtrument is the ſmalleſt-ſized *tamboura*.

Various kinds of the *tamboura* are to be found in Egypt, Aſiatic Turkey, Perſia, and Hinduſtan.

(134.)

ABYSSINIAN Fiddle, with bow. The whole inſtrument is cut out of one block of wood. Seven catgut ſtrings.

There are ſome muſical inſtruments to be found on the eaſtern coaſt of Africa which probably were derived originally from Hinduſtan. The preſent fiddle, which in ſhape bears ſome reſemblance to the *chikarah* of the Hindus, was brought to England by a ſoldier engaged in the Abyſſinian war, and confutes the ſtatement of Bruce and ſome other travellers, that the Abyſſinians poſſeſſed no inſtruments of the violin claſs.

(143.)

REBAB. *Perſian.* Probably of the preſent century. The body cut out of a ſingle piece of wood, is rudely ornamented with a pattern which is burnt on it. The inſtrument has three ſtrings of catgut, which near the top run through holes, and are faſtened at the back to the tuning-pegs.

This *rebab* is an exact counterpart of the *rebec* formerly popular in Weſtern Europe.

(79.)

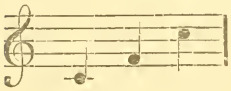
KEMÂNGEH a'gouz. With bow. *Egyptian.* A ſpecies of Eaſtern violoncello, with two ſtrings made of horſe-hair. The body conſiſts of the ſhell of a cocoa-nut, covered at the top with a bladder, and perforated at the back with a number of ſound-holes.

(80.)

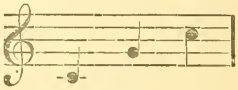
SAMSIEN. With a large plectrum of a white wood. *Japan.* Its three ſtrings are of ſilk. The body is ſquare, and is covered in front and at the back with parchment.

The *ſamſien* is played eſpecially by the Japaneſe ladies, and is as great a favourite with them as the lute was formerly with us.

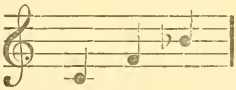
It is uſually tuned in the following order of intervals :—



but ſometimes thus :—



and alſo thus :—



(8.)

YUE-KIN, or "Moon-guitar." Mounted with four ſilken ſtrings, which are arranged in two pairs, each pair being in uniſon. The two tones thereby produced are tuned in the interval of a fifth from each other. *Chineſe.* Modern.

This groteſquely-ſhaped inſtrument is a favourite one of the Chineſe. The Canton pronunciation of *yue-kin* is *yuet-kum*, and this may be the reaſon why ſome European travellers in China have called the inſtrument *gut-komm.* The wood of which it is made is called by the

Chineſe *ſwan-che.* The ſtrings are twanged with a plectrum, or with the nails, which, it will be remembered, are grown by the Chineſe to an extravagant length.

(9.)

YUE-KIN. Strung with catgut ſtrings. *Chineſe.* Modern.

The employment of catgut ſtrings is probably an innovation, ſince we find in the old deſcriptions which the Chineſe poſſeſs of their muſical inſtruments only ſilken and wire ſtrings mentioned as being uſed by them.

(10.)

PEPA. Made of a wood called *wootung.* The four ſtrings, which are of ſilk, are tuned in the intervals of fourths from each other. *Chineſe.* Modern.

Chiefly played by the Chineſe ladies. As a curioſity, it may be mentioned that both the *pepa* and the *yue-kin* have generally ſome looſe and tinkling metal inſide, which is probably intended to produce a rhythmical effect when the inſtrument is occaſionally ſhaken while it is being played.

(11.)

SAN-HEEN. Made of a hard wood called *ſwan*, imported into China from Siam and Tonquin. The body is covered, at the back as well as in front, with the ſkin of a ſnake, called *tan.* Its three ſtrings are of ſilk, and are tuned in the intervals of fourths to each other. *Chineſe.* Modern.

A favourite inſtrument of the Chineſe. It is noteworthy that, although the two ſemi-tones of the diatonic ſcale are producible on the *ſan-heen*, *pepa*, and *yue-kin*, the Chineſe generally avoid them in their performances. Like the Malayſian Iſlanders, the Chineſe have a natural predilection for that ſeries of intervals which may be called the Pentatonic Scale, becauſe it contains only five different intervals in the compaſs of an octave.

(12.)

TCHE, or *Tfang*. Mounted with fixteen thin wire ftrings, which are placed over fixteen movable bridges. *Chinefe.* Modern.

The Chinefe have feveral kinds of *tche*. Thofe ufed in former times had not the large tuning-pegs found on the prefent fpecimen, and had fewer ftrings. The fpecies here exhibited is played with the fingers.

(13.)

YANG-KIN. Played with two little ticks of a rather peculiar fhape. It has two bridges, and is mounted with very thin brafs ftrings, which are placed fo as to run alternately through one of the two bridges and over the other. *Chinefe.* Modern.

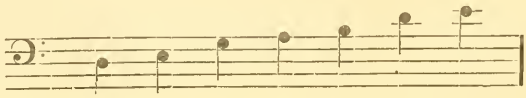
The refemblance of the *yang-kin* to our dulcimer, and to the *fantir* of the Arabs and Perfians, is very remarkable, and fuggefts various conjectures as to its origin.

(14.)

KIN, or "Scholar's Lute." Made of the *wootung* wood (*Dryandria condifolia*). It is lacquered; and there are two apertures below, ferving as found-holes. Its ftrings, of which there are feven, are of filk. *Chinefe.* Modern.

The *kin* bears no refemblance to a lute, and the name "fcholar's lute" appears rather inappropriate; it is, however, generally fo defignated by European travellers in China, perhaps becaufe it is efpecially played by Chinefe fcholars and philofophers.

When the Chinefe fcholar feels inclined to play upon his *kin* he takes the inftrument out of its cafe and places it upon a table, fo that the long filken taffels, which are attached to the tuning-pegs beneath, hang down over the edge of the table. He then tunes the ftrings in a feries of intervals in the following order :—



adopting the pitch according to his fancy. He twangs the ſtrings with his fingers, and obtains the tones which he requires by preſſing the ſtrings down at the places indicated by little ſtuds of mother-of-pearl.

The *kin* was the favourite inſtrument of the philoſopher Confucius.

(15.)

URH-HEEN. A Chineſe fiddle. Generally has only two ſtrings; the preſent ſpecimen has four. Its body is covered at the top with the ſkin of the ſnake called *tan*, a ſmall ſpecies of the genus Boa. *Chineſe.* Modern.

As an oddity it may be pointed out that the bow is attached to the ſtrings in ſuch a manner that the hair paſſes between them. It is ſaid, and may eaſily be believed, that the Chineſe violiniſts have to practiſe very aſſiduouſly before they can wield with dexterity the bow thus placed.

(132.)

HIUEN-TCHUNG. Antique Chineſe bell. Suppoſed to be very old. (See Fig. 41.)

The Chineſe mandarins are as zealous collectors of antiquities as any Engliſhman, and it is ſaid that occaſionally clever reproductions of ſcarce archæological curioſities are provided for them by cunning Chineſe artificers.

(16.)

THRO, or *Tarau.* Burmeſe violin. The *thro* has three ſtrings, as was the caſe with our *rebec* of olden time and as in the preſent day the *rebab* of the nations of Arab deſcent is often ſtrung. The top of the finger-board is ornamented with carvings in wood, and with a figure in ivory of a little idol. The ſtrings are of ſilk. *Burmeſe.* Modern.

Naſal as its tone may appear to us, the *thro* is certainly a ſuperior contrivance if compared with the *urh-heen* of the Chineſe. From an

examination of a MS. collection of about thirty popular Burmeſe tunes, as they are uſually played on the *thro*, written down by an Engliſh gentleman reſiding in Rangoon, it would appear that when the Burmeſe muſician accompanies his vocal effuſions with the *thro*, he plays the melody in uniſon with his voice, indulging, however, occaſionally in more or leſs extended interludes, performed as a *ſolo* on the inſtrument between the ſtrophes of his ſong.

(175.)

THRO. Burmeſe violin. The head elaborately carved. Three ſilken ſtrings. *Burmeſe.* Made probably in the 18th century, if not earlier.

(151.)

KHEW. A ſmall bell. *Burmeſe.* 19th century. To the clapper is attached a thin plate of metal, gilt, in the form of a leaf. A number of theſe bells are generally ſuſpended from the roofs or projections of the different ſtories of the Buddhiſt temples. The wind moving the leaf cauſes the clapper to ſtrike the bell. The ſound of the *khew* is remarkably clear and ſuſtained.

(61.)

SARINDA; alſo called *chihikong*. A Hindu violin with three ſtrings. It is made of a ſingle block of wood, hollowed and carved. The upper part of the body is left partially open, and is partially covered with ſkin reſembling bladder, generally from a ſpecies of gazelle. *Indian.*

(144.)

CHIKARAH. *Indian* (from Bombay). An inſtrument of the violin claſs. It is cut out of a ſingle block of wood, which, when rubbed or damped, emits a peculiar aromatic

ſcent. The belly is of parchment. Three catgut ſtrings, beneath which are placed ſeven thin wire ſtrings.

(145.)

SARUNGI. *Indian* (from Bombay). An inſtrument of the violin claſs. Four catgut ſtrings, and beneath them thirteen "ſympathetic" ſtrings of thin braſs wire.

The performer on the *ſarungi* does not preſs the catgut ſtrings down upon the finger-board, but touches them at the ſide with his fingers to produce the tones which he deſires. When played upon, the *ſarungi* is not held like our violin; the performer places it before his breaſt in a nearly perpendicular direction.

(17.)

SITAR. Five wire ſtrings. Originally the *ſitar* was made with three ſtrings; hence its name. The body is made of a gourd and of cocoa wood. The neck has movable frets, which enable the performer to alter the order of intervals or the muſical ſcale whenever he finds it expedient. In playing, the muſician twangs the ſtrings with a little plectrum called *mizrab*, which is made of a piece of wire curiouſly twiſted, and which he has attached to the forefinger of his right hand. *Indian.* Modern.

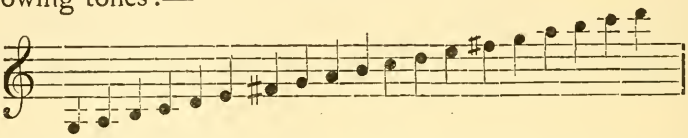
There are, it is ſaid, among the profeſſional muſicians in Hinduſtan *ſitar* players who enrapture their auditory as much as any faſhionable virtuoſo in Europe.

(153.)

NAGARAH. A drum formed of an earthenware bowl, over which hide is ſtretched. *Indian* (from Surat). Diam. at the top, 16 in., H. $6\frac{1}{2}$ in.

(18.)

RANAT. A harmonicon. *Siameſe.* Modern. The nineteen ſlabs of ſonorous wood, when vibrated by being ſtruck with the ſtick belonging to the inſtrument, produce the following tones:—



It will be obſerved that the *ranat* has the diatonic ſcale, which is not the caſe with ſeveral inſtruments of this kind common in Java and other Malayſian iſlands. Theſe have uſually the pentatonic ſcale, *i.e.*, the diatonic intervals with the exception of the two ſemitones.

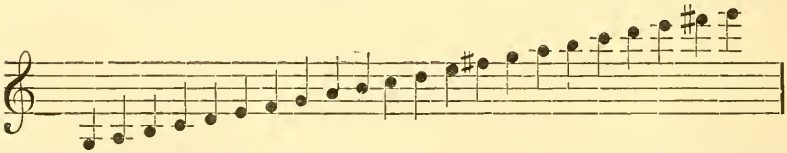
EUROPEAN INSTRUMENTS.

Moſt of theſe are, as has already been intimated, long ſince out of faſhion, but the names of them are familiar to muſical inquirers, being mentioned not unfrequently in our claſſical literature; and ſome of the inſtruments were, two or three centuries ago, as popular as the pianoforte and the harmonium are at the preſent time.

Pulsatile and Wind Instruments.

(74.)

ECHELETTE. *French.* 18th century. It has twenty-two ſlabs of a hard wood, which, when ſtruck with the little mallets belonging to it, give the following tones:—



It will be obſerved that the loweſt tone (produced by the longeſt and thinneſt ſlab) is the dominant of C-major, and that the upper arrangement of intervals is according to the ſcale of G-major.

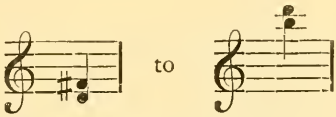
(64.)

SMALL Flageolet. *Engliſh.* With ſeven finger-holes, greatly varying in ſize for the ſake of inſuring a correct intonation.

(65.)

DOUBLE Flageolet. *Engliſh.* Beginning of the preſent century. Made by Bainbridge, London.

In the year 1819, Bainbridge took out a patent for the conſtruction of ſuch inſtruments. According to a ſtatement in the 'Harmonicon,' London, 1830, he invented in the year 1804, "a mode, with the aſſiſtance of keys, to fix two of his ſingle flageolets together, or rather two bodies in one head, which became exceedingly faſhionable; for, muſic in two parts from—

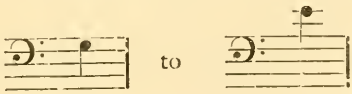


could be eaſily performed on this double flageolet."

(66.)

TRIPLE Flageolet. *Engliſh.* Beginning of the preſent century. Made by Bainbridge.

Leſs common than the double flageolet, but equally uſeleſs for muſical performances of the preſent day. The 'Harmonicon,' London, 1830, records:—"Within theſe few years Mr. Bainbridge has added a baſs joint to his double flageolet, the compaſs of which is from—



and the tone reſembles the lower notes on a German flute. The effect produced by the combination of three notes is very good and mellifluous. The baſs joint is fixed at the back of the double flageolet, and the breath

is conveyed by means of a tube; and by the introduction of what are termed ſtop-keys, a ſolo, duet, or trio may be inſtantaneouſly performed. The baſs notes are produced by keys preſſed with the thumb of the left hand." The writer remarks that "this inſtrument being purely Engliſh, I conſider it deſerving of being recorded as a very ingenious invention."

(67.)

FLUTE à bec. *Engliſh.* About 1700. Boxwood and ivory. L. 1 ft. 6 in. Eight finger-holes, and without any key.

(173.)

TENOR Flute. *German.* About the year 1600. L. 2 ft. 9 in. Seven finger-holes and one key.

(68.)

BASS Flute. *Engliſh.* About 1650. (See the engraving, Fig. 141.) With a braſs tube for blowing the inſtrument. Six finger-holes, and one braſs key at the upper ſide, and one finger-hole for the thumb at the oppoſite ſide. L. 3 ft. 8 in.

The baſs flute had not unfrequently a wooden cylinder inſerted in the lower end of the tube, about two feet in length, terminating in a round knob. Its purpoſe was to prevent the tube touching the ground when the performer was ſeated. This contrivance accounts for the baſs flute having generally a large hole at the ſide near the lower end, which evidently ſerved as a ſubſtitute for the hole at the end cloſed by the cylinder or tail-piece. Including this cylinder, the baſs flute meaſures nearly ſix feet in length. A number of performers playing in concert on flutes of ſuch enormous dimenſions muſt have been a rather impoſing ſight. But the effect produced by the performance, however beautiful the muſic may have been, would certainly appear at the preſent day ſomewhat ludicrous, conſidering the weakneſs of the ſound emitted by theſe huge flutes.

In the inventory of the collection of muſical inſtruments which belonged to King Henry VIII., compiled by Philip van Wilder, a Dutch

lute-player in the ſervice of the king, the manuſcript of which is preſerved in the Britiſh Muſeum, we find entered: "Flutes called Pilgrims' Staves; a great baſe recorder; two baſe recorders of walnut."

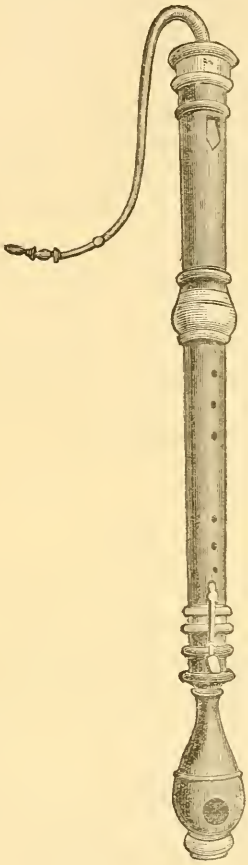


Fig. 141.—Bass Flute. Engliſh.

(69.)

SERPENT. *Engliſh.* Beginning of the preſent century. Wood, covered with leather. Several braſs keys, and a braſs tube for blowing the inſtrument. Made by Gerock Wolf, in London.

The invention of the *ſerpent* is attributed to Edme Guillaume, a canon of Auxerre in France, anno 1590. It was, however, no new

invention, properly ſpeaking, but merely an improvement upon the old *baſs-zinken*, the management of which was rendered more convenient by giving a ſerpentine winding to the tube. This inſtrument ſubſequently became rather popular. It was uſed in military bands and in proceſſions until about the middle of the preſent century. The French made uſe of it alſo in church to ſupport the voices. Towards the end of the eighteenth century it appears to have ſtill been a common ſubſtitute for the organ in France. Dr. Burney, in his 'Journal,' London, 1773, ſtates that he frequently met with it in the churches of that country, and he expreſſes a more favourable opinion of its ſuitableneſs for promoting edification than might have been expected from a refined muſician:—"It gives the tone in chanting, and plays the baſs when they ſing in parts. It is often ill-played, but if judiciouſly uſed would have a good effect. It is, however, in general overblown, and too powerful for the voices it accompanies; otherwiſe, it mixes with them better than the organ, as it can augment or diminiſh a ſound with more delicacy, and is leſs likely to overpower or deſtroy, by a bad temperament, that perfect one of which the voice only is capable."

(70.)

HORN. Made in the ſhape of the Roman *cornu*. *Engliſh*. About 1700. This horn, which is of braſs, terminates in the head of a ſerpent. It is probably the "leſard" (or lizard) mentioned by Engliſh writers about two hundred years ago.

A "lezarden" is recorded among the muſical inſtruments of Sir Thomas Kytſon of Hengrave Hall, about the year 1600 ('The Hiſtory and Antiquities of Hengrave, Suffolk, by John Gage,' London, 1822).

(130.)

ALPHORN. Of birchwood; neatly covered with birch-bark. *Switzerland*. L. 8 ft. 1 in. Made by M. von Euw in Bürgy, Rigi Kulm, Canton Swyz. The tube is ſtraight.

There are three forms of the Alphorn. That of the preſent inſtrument is uſed in the Cantons Appenzell and Swyz. The Alphorn

with a thicker tube than this one, and ſomewhat curved at the broadeſt end, is uſed principally in the Berneſe Oberland. The third form, probably a rather modern adoption to render the inſtrument more handy, is that reſembling the trumpet, as the tube is wound ſeveral times round in an oval ſhape. This kind of Alphorn is chiefly uſed in the Cantons Uri, Unterwalden, and Swyz.

(78.)

BORDER Bagpipe. *Engliſh.* From Northumberland. With bellows. Four drones. The chanter is of cocoa wood, neatly made, and provided with braſs keys.

Lutes, Guitars, and similar Instruments.

All of theſe have catgut ſtrings, and, except one or two kinds, are twanged with the fingers inſtead of a plectrum.

(19.)

LUTE, or Teſtudo Theorbata. Double neck and thirteen ſtrings. *Engliſh.* About 1650.

This inſtrument reſembles the figure of the "Old Engliſh Lute" given by Thomas Mace in his 'Muſick's Monuments,' London, 1676. Mace ſays: "The theorboe is no other than which we call'd the Old Engliſh Lute." On the *theorbo* uſed on the continent, however, the neck for the baſs ſtrings was much longer than it is on the preſent ſpecimen. The ſtrings for the higher tones, except the higheſt of all, are arranged in pairs, each pair being tuned in uniſon. The higheſt ſtring was called the *chanterelle*, becauſe it was chiefly uſed for playing the melody, while the others were uſed for the accompaniment.

(149.)

LUTE. *French.* 17th century. The neck has been altered in the 18th century.

(20.)

LUTE. *Italian.* About 1580. From an old inſcription inſide, now greatly obliterated, it would appear that this lute was made by Magnus Tieffenbrucker in Venice.

In ſome old German books we find it mentioned that this ſpecies of lute,—with the body inlaid with ivory and various woods, with a thick and heavy head for the tuning-pegs, and three ſound-holes placed behind the ſtrings,—was chiefly made in Rome, and was therefore called the "Roman Lute." In the preſent ſpecimen ſome of the ivory work has been reſtored; in all other reſpects it is in its original condition.

It may not be out of place here to ſay a few words reſpecting the family of Tieffenbrucker, which may perhaps afford a hint to muſicians intereſted in the hiſtory of the violin.

There lived in Venice in the latter half of the ſixteenth, and beginning of the ſeventeenth century, three celebrated lute makers of this family, viz., Magnus, Vendelino, and Leonardo Tieffenbrucker. The name is evidently German, and it appears very probable that they came to Italy from the Tyrol, like Jacob Stainer and ſome other celebrated inſtrument makers. Now, we find that the name of the earlieſt violin maker in Italy, whoſe inſtruments are ſtill highly appreciated, was Gaſpard Duiffoprugcar. Scarcely more is known of this celebrated maker than that he was born in the Tyrol, and lived in Bologna about the year 1510. Further inquiries may perhaps elicit that his name, properly ſpelt, was Tieffenbrucker, and that he belonged to the above family. About three centuries ago, as is well-known, orthography was rather unſettled, and even the names of perſons were not unfrequently written in different ways. Indeed this was ſtill the caſe in the laſt century. Handel wrote his name in Italy H*e*ndel, in Germany H*æ*ndel, and in England H*a*ndel. Gluck wrote himſelf in Germany Gl*ü*ck. Furthermore, it may be ſurmiſed that all the Tieffenbruckers were makers of violins as well as of lutes. It evidently was in their time uſual for men following their occupation to combine the making of inſtruments of the violin claſs with that of lutes. In France, at the preſent day, the violin makers are called *luthiers.*

In ſupport of the above ſuppoſition may be cited the inſcription *Magno Dieffopruchar a Venetia* 1612, in a lute depoſited in the Liceo Comunale di Muſica at Bologna, and another inſcription with the name of the ſame maker ſpelt ſlightly differently, viz., *Magno Dieffoprukhar*

a Venetia 1607, in an old Italian lute belonging to Prince Moriz Lobkowitz in Eifenberg, Bohemia.

(71.)

LUTE. *German.* Made by Jacobus Heinrich Goldt in Hamburg, Anno 1712.

According to an infcription infide, it was altered, in the year 1753. To judge from the holes in the old bridge ftill retained it had originally twenty-one ftrings. By the alteration it has affumed more the character of a guitar.

(21.)

LUTE. *Italian.* Early 15th century. This inftrument is efpecially. interefting, inafmuch as it has attained the venerable age of four hundred and fifty years. It is the work of Laux (or Lucas) Maler, a German, who lived in Bologna about 1415, and who may be confidered as the Amati of the old lute makers.

At the time when Thomas Mace wrote his book before-mentioned, which, it muft be remembered, was two hundred years ago, when the value of money was fix times higher than it is at the prefent day,—the lutes of Laux Maler were in high repute, and "pittifull old, batter'd, crack'd things" as they were, according to Mace, they fetched as much as a hundred pounds a-piece.

The prefent fpecimen is in a found ftate of prefervation. Nothing has been altered on it except the tuning-pegs,—brafs and ivory fcrews having been fubftituted for the original pegs. This contrivance, as well as a painting of flowers on the foundboard, is probably not older than about a hundred years. The cracks on its pear-fhaped body have been carefully mended,—not recently, but evidently whenever they occurred in the courfe of centuries. Its tone is remarkably fine, having an exquifite fonoroufnefs and mellownefs of found. It evidently had originally thinner ftrings, arranged in pairs, as may be feen by the holes in the bridge. But this arrangement could not now well be reftored on account of the fubftitution of the tuning machine above referred to. The places where fome of the ancient tuning-pegs were fixed are ftill difcernible. The knob at one fide of the body ferved for placing the

inſtrument againſt a table. It was the cuſtom of lute players, eſpecially at an early time, to reſt the inſtrument againſt a table inſtead of holding it faſt by means of a band ſlung round the ſhoulders.

Through the ſound-hole may be ſeen the name of Laux Maler exactly correſponding with the fac-ſimile of Maler's autograph given in Gottlieb Baron's work on the lute, entitled, 'Unterſuchung des Inſtruments der Lauten,' Nürnberg, 1727. The wood and varniſh are of the kind uſed by the celebrated Cremona violin makers. Since lutes went out of faſhion many valuable ones have been cut to pieces for the purpoſe of uſing the wood in reſtoring valuable Cremona violins; and this is one of the reaſons why they are now ſo ſcarce. But the chief reaſon of the ſcarceneſs of Laux Maler's lutes is undoubtedly the length of time which has elapſed ſince they were made.

(86.)

THEORBO. *Italian.* 17th century. Twenty-four ſtrings. Ornamented ſound-hole.

(171.)

ARCHLUTE. *Italian.* Made by Bueckenberg, Rome, 1619. Bueckenberg, a German by birth, was one of the moſt celebrated lute makers in Italy. He made the back of the lute with narrower ſlips of wood than moſt other makers, and his lutes have generally three ornamented ſound-holes.

The preſent archlute has a mechaniſm by means of which any one of the baſs ſtrings by the ſide of the finger-board can be raiſed a ſemitone in pitch.

(170.)

CHITARRONE. Large Roman theorbo. With marquetry, and ornamented ſound-holes. *Italian.* Made by Bueckenberg in Rome, anno 1614.

(22.)

THEORBINO. A ſmall Theorbo. Sixteen ſtrings, ſix of which run beſide the finger-board. *Engliſh.* 17th century.

(24.)

GUITARE. The ſtrings, as was often the caſe, are arranged in pairs tuned in uniſon. *French.* 17th century. The work of Voboam, a celebrated lute maker of the time of Louis XIV.

The bridge on this inſtrument is a modern ſubſtitution, calculated for ſix ſtrings. The addition of a ſixth ſtring on the guitar is comparatively modern, and is ſaid to have originated in Germany about the year 1780. The ſixth ſtring which was added was the loweſt one, *e*.

(25.)

MACHÊTE. A ſmall guitar with four ſtrings. *Portugueſe.* 18th century.[1]

The *machête* is ſtill played in Madeira as well as in Portugal, and ſeems, likewiſe, to have been formerly occaſionally uſed in England. The tone of the preſent ſpecimen is remarkably voluminous and ſonorous, conſidering the ſize of the inſtrument.

(26.)

QUINTERNA, or Chiterna. A ſpecies of guitar, ſomewhat reſembling a violin in ſhape, with three pairs of catgut ſtrings, and two ſingle ſtrings covered with wire. Frets of catgut. *Italian.* 17th century.[2]

Uſed about two centuries ago, eſpecially in Italy, by the lower orders of muſicians and comedians for accompanying their vocal performances.

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[1] See alſo page 254.

[2] See alſo page 247.

It was played with the fingers inſtead of a plectrum. There is a label inſide with the inſcription—*Antonius Bachmann Königl: Preus: Hofinſtrumentenmacher in Berlin*, 1769; but it is not likely that Antonius Bachmann was the maker of this inſtrument. It probably dates from the ſeventeenth century. Bachmann had a reputation not only as a maker of new inſtruments but alſo as a ſucceſsful repairer of old ones.

(27.)

LYRE-GUITARE. Its form is an imitation of the *lyra* of the ancients, with the addition of a finger-board in the middle. It is, in fact, nothing but a guitar in the ſhape of Apollo's lyre. *French.* Period of Louis XV.

During the latter half of the laſt century the *lyre-guitare* was rather patroniſed in Paris, eſpecially by the ladies, becauſe playing on it was thought to look graceful. However, owing to the inconvenience of holding it on the lap, and to its poſſeſſing no real advantage over the guitar, it was gradually abandoned, while the guitar retained its place.

(76.)

LYRE-GUITARE. *French.* Said to have belonged to Queen Marie Antoinette.

The documents in evidence that Marie Antoinette uſed to play upon it when ſhe was impriſoned, were brought with the inſtrument from France by Captain Weſtbrook, but are now miſſing.

(28.)

GUITAR-LYRE. In its conſtruction almoſt identical with the French *lyre-guitare* (No. 27). *Engliſh.* Made by R. Wornum, Wigmore Street, London, about 1770.

(29.)

HARP-GUITAR. *Engliſh.* End of 18th century.

(141.)

HARP-GUITAR. *Engliſh.* About 1800. Eight-ſtringed. Painted with flowers, &c. On the finger-board is the inſcription *Clementi et Co., London.*

(30.)

HARP-THEORBO. *Engliſh.* Made by Walker, about 1800.

The harp-guitar and harp-theorbo were manufactured in England with the intention of improving the ſound of the guitar and theorbo by adopting for them the body of the harp.

There was another invention of this kind, called the *harp-lute*, which in ſhape was exactly like the inſtrument next deſcribed.[1]

(31.)

DITAL Harp. *Engliſh.* Recorded to have been invented by Edward Light, London, about the year 1800.

Dr. Buſby, in his 'Concert Room and Orcheſtra Anecdotes,' London, 1825, deſcribes this inſtrument as follows :—" The *dital harp* (ſo called from the Italian word *dita*, fingers,—the action or machinery by which the ſemi-tones are effected being preſſed by the finger inſtead of the foot), though not unlike the harp-lute in form, is totally different in the arrangement of its ſtrings, in the method of performing on it, and in its general effect. This inſtrument is ſtrong in tone, tuned preciſely as is the pedal harp, and is alſo played upon with both hands, the only difference being that, in the way it is held the order of the ſtrings is inverted, the longeſt or baſs ſtrings being neareſt to the performer,—a convenience effected by a ſimple little machine attached to each ſtring, for which the inventor obtained a patent. The *dital harp* may be played on in all the uſual harp keys, and every ſemi-tone may be expreſſed at pleaſure. Its compaſs has the extent of three octaves, that

[1] See alſo page 250.

is, from E-flat below the baſs clef to E-flat in alt. Its tone is of a dulcet quality; and unqueſtionably, the pedal-harp excepted, this inſtrument is the moſt eligible accompaniment to the human voice."

(32.)

HARP-VENTURA. Invented at the beginning of the preſent century by Signor Angelo Benedetto Ventura, profeſſor of muſic, and teacher of the guitar and harp-lute to the Princeſs Charlotte of Wales.

Ventura exhibited his invention at the National Repoſitory, Royal Mews, Charing Croſs, where he played upon it in public. It is, of courſe, not to be expected that the *harp-ventura* ſhould vie in quality of ſound with an old Italian inſtrument; and as to its ornamentation of turtle-ſhell and gilding, the muſician is likely to be more pleaſed with ſeeing the unadorned fiddle-wood, with the famous varniſh upon it, clear as cryſtal, which diſtinguiſhes the inſtruments of the Cremona makers.

Cithers, Panduras, and similar Instruments.

One of the moſt popular inſtruments in domeſtic circles about three hundred years ago was the Cither, alſo mentioned by the old writers as Cithern, Cittern, Cythorn, &c. It muſt be remembered that the name of *Cithara* was formerly applied to various ſtringed inſtruments, but eſpecially to ſuch as had wire ſtrings which were twanged with a *plectrum*, uſually made of a quill or a piece of whalebone.

(33.)

CITHER. A ſpecimen of the kind which in England was commonly found in barbers' ſhops, &c. It is provided with a peculiar contrivance for tuning the ſtrings by means of a watch-key. On the ſtrings is placed a *Capo-taſto*, a contrivance which enabled the performer to raiſe the pitch

inſtantly, and to play in different keys with equal facility. *Engliſh.* About 1700.

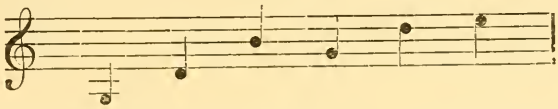
(137.)

CITHER. *Engliſh.* Made by Remerus Lieſſem, London, 1756.

(34.)

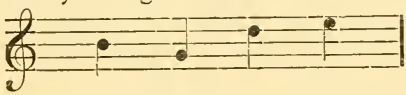
CITHER. Ornamented. *German.* End of the 17th century.

Strange enough, the ſix tones produced by the open ſtrings were uſually tuned in an order which made the third tone higher than the fourth (counting from the loweſt upwards), thus :—

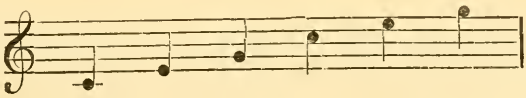


This ſucceſſion of intervals was probably adopted becauſe when the ſtrings were ſtruck with the quill from the loweſt upwards (as was uſually done) the *third* of the major chord would be heard before the *octave*, which would heighten the effect.

The old Engliſh *cittern* with four double ſtrings of wire, in uſe at the time of Shakeſpeare, was tuned in a ſomewhat ſimilar way ; for its intervals were generally arranged thus :—



But afterwards, when the larger ſpecies of cither, alſo called "The Engliſh Guitar," came into vogue, we find the following tuning adopted :—



This order of intervals is indicated near the tuning pegs on ſome of the inſtruments preſerved from the 18th century by the letters C, E, G, C, E, G. Moreover, it is alſo given as the proper arrangement of the ſtrings in Tanſur's Muſical Grammar and Dictionary, Stokeſley, 1770.

(35.)

CITHARA. A cither with ſix pairs of ſtrings. Inlaid with mother-of-pearl, tortoiſe-ſhell, and ivory. Provided with a *Capo-taſto* of ivory. *Portugueſe.* Made by Joan Viera da Silva, at Liſbon, about 1700.

(36.)

SMALL Cither. The open ſtrings produce only five tones. Specimens of this kind are now very ſcarce. *Engliſh.* About 1700.

Michael Prætorius, in his 'Theatrum Inſtrumentorum,' Wolffenbuttel, 1620, gives a drawing of this ſpecies of cither. He calls it *Klein Engliſch Zitterlein* (*i.e.*, "The ſmall Engliſh cithern"), from which it would appear that the Germans conſidered this inſtrument as of Engliſh origin.

(37.)

GROSS-CITHER. A ſpecimen of the Bijuga Cither. Seventeen wire ſtrings, eight of which are placed near the finger-board; the others, which extend to the higher ſet of tuning-pegs, ſerving for the baſs notes, run at the ſide of the finger-board. *German.* 16th century.

The Bijuga Cither (or *Cithara Bijuga*) has, as its name implies, a double neck. Merſenne, in his 'Harmonicorum Libri xii.,' publiſhed in 1648, calls alſo the theorbo by this name, becauſe it had a double neck; but the theorbo is, properly ſpeaking, a lute, and not a cither.

About a hundred years ago, this inſtrument (No. 37) came into the poſſeſſion of a citizen of Nürnberg, who has placed his name in the inſide. Afterwards it was in a muſeum of antiquities at Vienna.

(38.)

LARGE Bijuga Cither. Back and ſides ſatinwood. Sixteen ſtrings. *Engliſh.* 17th century. (The "Roſe" in the ſound-hole modern.)

Called in Germany *zwölfchörige cither*, becauſe its open ſtrings, the higheſt of which are in pairs tuned in uniſon, give twelve different tones. Five of theſe are unalterable during the performance, as they

are beſide the finger-board. This ſpecies of cither is probably the *poliphant* mentioned as a favourite inſtrument of Queen Elizabeth. Playford, in his 'Introduction to the Art of Deſcant,' London, 1683, while extolling the muſical accompliſhments of Queen Elizabeth, remarks, "I have been informed by an ancient muſician and her ſervant that ſhe did often recreate herſelf on an excellent inſtrument called poliphant, not much unlike a lute, but ſtrung with wire." We poſſeſs no reliable information reſpecting this poliphant (polyphon ?), but there appears to be reaſon to ſuppoſe that it was the large ſpecies of cither here repreſented.

The modern German *zither* (alſo written *zitter* and *cither*), which has not long been introduced into England from Bavaria and Auſtria, is a very different inſtrument from any of thoſe juſt noticed. It rather reſembles the dulcimer in ſhape, and is placed on a table to be played. This horizontal cither was known to our forefathers about three hundred years ago; only it was leſs pretentious in ſize and in power of ſound than it is at the preſent day. The Germans called it *ſcheidholt*. It is ſtill to be found, in its old oblong ſhape, among the country people in ſome diſtricts of Germany and France, near to Switzerland.

(142.)

BIJUGA Cither. Inlaid with mother-of-pearl, ivory, and ebony. *French.* 18th century.

This elegant ſpecies of cither, conſtructed like the theorbo, but having a flat back, was evidently often in France ſtrung with catgut inſtead of wire, and played with the fingers like the theorbo. It is probably the ſame inſtrument which by ſome old French writers is called *pandore*, a name which in different centuries and among different nations has been applied to various inſtruments, the ſtrings of which are vibrated by being twanged with the fingers or with a plectrum.

(75.)

BIJUGA Cither. *French.* Made in Paris. About 1750.

(39.)

BÛCHE. *French.* (German, Scheidholt.) From Val d'Ajol, in the Voſges mountains in France. Beginning of the preſent century.

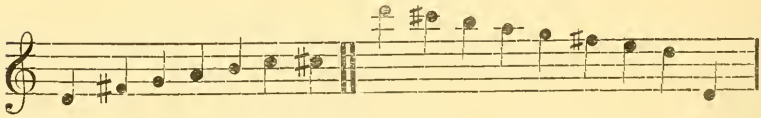
At the preſent day the people twang it with a quill; but in olden time it was played thus:—The performer, having placed the inſtrument on a table, twanged the ſtrings with the thumb of his right hand, while he uſed his left hand in preſſing down, by means of a little ſtick, thoſe ſtrings which are placed over the frets, and which, being tuned in uniſon, ſerve for producing the melody. The other ſtrings, tuned a *fifth* lower, were occaſionally ſtruck as an accompaniment.

Primitive in conſtruction, and imperfect for our preſent muſical performances as the *ſcheidholt* is, it nevertheleſs is intereſting, not only on account of its popularity three centuries ago, but alſo becauſe it is the prototype of the horizontal cither, which has come ſomewhat in vogue in the preſent century.

(73.)

BELL Harp. Made by John Simcock in Bath. *Engliſh.* About 1700. L. 1 ft. 8 in.

It has ſixteen tones, which are tuned as follows:—

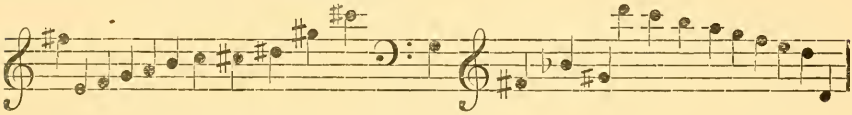


Each tone is produced by three thin braſs ſtrings tuned in uniſon. The ſtrings are ſounded by means of two little plectra, or quills, of which the performer faſtens one on the thumb of each hand. The two wooden handles, one on each ſide of the inſtrument, are for holding the bell-harp while ſwinging it during the performance, to produce the effect of a diſtant bell. The deſcription of the bell-harp as given by Graſſineau, in his Muſical Dictionary, London, 1740, is not quite in accordance with that of the preſent ſpecimen. He ſays, "It is a muſical inſtrument of the ſtring kind, thus called either becauſe ſhaped like a bell, or by reaſon the common players thereon ſwing it about as a bell on its bias, it being hung on a ſtring, and reſted againſt them for that purpoſe. Its length is about three feet, its ſound-board is uſually of the ſame wood as that of the ſpinet or harpſichord, having a roſe carved in the middle; its ſtrings are of braſs or ſteel wire, fixed at one end, and ſtretched acroſs the ſound-board by ſcrews fixed at the other end next the player. The number of ſtrings is not fixed; ſometimes more, ſometimes leſs. They are ſtruck with the thumb only of each hand; the right hand plays the treble, the left hand the baſs; but the thumbs are armed with a little wire pin, or needle, in order to draw

the ſound the clearer. It takes in the compaſs of three or four octaves, according to the number of ſtrings."

In reality the bell-harp is nearly identical with the pſalterium made about three hundred years ago, which the performer held on his lap, and inſtead of ſtriking the ſtrings with ſticks, as in playing the dulcimer, he twanged them with plectra. The maker of the preſent ſpecimen advertizes himſelf on a label in another bell-harp :—" John Simcock, in the Right Honourable the Earl of Ancram's regiment of Dragoons, and in Captain Bell's troop, makes, mends, and ſells the Engliſh harp ; alſo inſtructs gentlemen in the beſt mode of playing that inſtrument." According to Sir John Graham, in his 'Muſical Memoirs of Scotland,' the nobleman referred to is William ſecond Marquis of Lothian, who was appointed Colonel of the ſeventh regiment of Dragoons in 1696, and Colonel of the third regiment of Foot-guards in 1707. Is it not likely that Simcock gave to the inſtrument the name of bell-harp rather in compliment to his ſuperior, Captain Bell, than with the intention of alluding to the muſical effects peculiar to the bell ?

He evidently conſtructed varieties of the inſtrument. In a ſpecimen which is ſtill extant, the higheſt tones have each four ſtrings tuned in uniſon ; the others have three, except the deepeſt, which is produced by a ſingle ſtring covered with wire. This inſtrument has twenty-four tones, which are arranged in the following peculiar order, counting from the left to the right of the bell-harp :—



The notation is marked in the inſtrument.

(40.)

PANDURA. Played with a quill like a cither. *Italian.* About 1700.

The Pandura was imported from the South of Italy, eſpecially from Naples. Bonanni, in his 'Gabinetto armonico,' Roma, 1722, gives a drawing of it.

Another curious inſtrument with wire ſtrings, admired by our anceſtors, was the *pandore.* There ſeem to have been formerly three differently ſhaped inſtruments in uſe in England, called by very much the ſame name, viz., the Italian *pandura*, the Engliſh *pandore*, and the *bandoer.* The laſt-named is recorded to have been invented about the year 1560 by one John Roſe, " a citizen of London, living in

Bridewell;" but it is in reality only a *pandura* with ſome modifications in ſhape, as were alſo the *orpheoreon*, the *penorcon*, and ſome other kinds of cithers of that period, which evidently did not become very popular.

(41.)

PANDORE. Played with a quill like the cither. *Engliſh.* 17th century.

The Pandore appears to have been rather popular in England about three hundred years ago, and it was evidently tuned much in the ſame way as the cither; for in ſome old books of inſtruction for the latter inſtrument the pandore is mentioned as if the treatment of the two were almoſt the ſame.

(42.)

BANDURIA. Often ſtrung with wire inſtead of catgut, and played with a plectrum generally made of tortoiſe-ſhell. *Spaniſh.* 18th century.

The Spaniſh peaſants call their ruſtic guitar *vihuela;* and it appears probable that the "gittrons that are called Spaniſh vialls," mentioned in the liſt of muſical inſtruments of Henry VIII. (Harl. MSS. 1419, p. 202) were ſmall guitars of this deſcription.

(101.)

BANDURIA. A Spaniſh inſtrument of the Mandoline kind; but moſt likely made in England. Beginning of the preſent century. Roſewood, inlaid with yew, mother-of-pearl, &c. Machine head. Three ornamented ſound-holes. Twelve ſtrings of catgut arranged in pairs. To be played with a plectrum.

(43.)

MANDOLINO. *Italian* (*Naples*). 18th century.[1]

Mozart uſed an inſtrument of this deſcription in the ſerenade in *Don Giovanni.*

[1] See alſo page 247.

(72.)

MANDOLINO. In its old Italian leathern caſe. Inſide the inſtrument is the inſcription *Vincentius Vinaccio fecit Neapoli, Sito Nella Calata de Spitaletto A.D.* 1785.

(97.)

MANDOLINO. *Italian.* About 1700. Roſewood inlaid with ivory, tortoiſe-ſhell, and mother-of-pearl. In front, a figure of Apollo under a canopy, and other embelliſhments in mother-of-pearl. Silver frets. An ornamented ſound-hole covered with glaſs. A figure made of mother-of-pearl inlaid near the bridge contains the engraved initials *A.G.*, which may be thoſe of the maker of the inſtrument, poſſibly Andreas Guarnerius. This fine mandoline is of the ſcarce kind called "Milaneſe Mandoline," and alſo "Mandurina." It has twelve wire ſtrings, which are arranged in pairs and produce ſix tones; while the more common Neapolitan mandoline has eight ſtrings, conſtituting four pairs.

(44.)

MANDOLA. *Italian.* Made by Gio. Battiſta at Naples, in 1701. L. 2 ft. 11 in., depth of body, 10 in. Sixteen ſtrings arranged in eight pairs, or uniſons.

The *mandola*, which is much ſcarcer than the *mandolino*, is alſo called *mandura* or *mandora*, and about three centuries ago was alſo made of a ſmaller ſize and with fewer ſtrings. Like the *mandolino* it was played with a plectrum. In fact, the *mandola* is exactly like the *mandolino* in ſhape, but of the ſize of a large lute. The purpoſe of the little plate of tortoiſeſhell, or ſome other ſuitable ſubſtance, placed on the ſound-board beneath the ſtrings between the ſound-board and the bridge, is to prevent the ſound-board being ſcratched by the plectrum. The tone of the *mandola* here exhibited is very fine, and may well cauſe the muſician to regret that the inſtrument has fallen into diſuſe.

Viols, Violins, and other Instruments played with a Bow.

(116.)

VIOLA-DA-GAMBA. *Englifh.* 17th century. Carved head. Six-ftringed. Infide is the infcription, *Richard Meares, without Bifhopfgate, near to Sir Paul Pinders, London, Fecit* 1677.

(45.)

VIOLA-DA-GAMBA. Inlaid with mythological repre-fentations and other ornamentation in ivory, mother-of-pearl, tortoife-fhell, &c. Made about the year 1580, probably in Hamburg.

The fubftitution of a machine for the original tuning-pegs is modern; otherwife the inftrument is in its original condition. There could be no difficulty in reftoring the tuning-pegs, which probably were of ivory, perhaps ornamented at the top, with a fmall jewel correfponding with thofe ftill to be feen on the neck.

Before this inftrument came into the prefent collection it was in the poffeffion of Mr. Simon Andrew Forfter. In the work entitled 'The Hiftory of the Violin and other Inftruments played on with the Bow,' by W. Sandys and S. A. Forfter, London, 1864, there will be found two reprefentations of this inftrument, with fome information refpecting its hiftory. Having mentioned Corelli's violin, made in the year 1578, and the celebrated violin which Queen Elizabeth gave to the Earl of Leicefter, the writers proceed as follows:—"One of the writers of this work has in his poffeffion a very handfome viol-da-gamba of about this date, richly inlaid and ornamented, purchafed from the late Mr. John Cawfe, the artift, but we have been unable to afcertain the previous owners. The body is about the fize of a modern violoncello, and it has frets. It is altogether fo fine a fpecimen of this clafs of inftruments that we have had photographs, from which our illuftrations are taken. When the lamented Prince Confort, on the 16th of April 1845,

being the director for the evening of the Ancient Concert, had ſome muſic of the ſixteenth century performed on inſtruments of that period, ſome of which were ſent over by M. Fétis from Bruſſels for the purpoſe, Mr. Cawſe lent this viol-da-gamba, which was played on by Mr. Richard Hatton. In the courſe of the evening he was deſired to attend and ſhow the inſtrument to the Queen, who examined it carefully, and expreſſed herſelf much pleaſed with it."

This inſtrument was probably made by Tielke in Hamburgh. There are two inſtruments of the guitar kind made by Joachim Tielke, which were highly ornamented with mythological figures and precious ſtones, almoſt exactly like the preſent viola da gamba; one of theſe inſtruments dated, according to an engraved inſcription, from the middle of the ſixteenth century, and the other dated more than a century later. The Tielke family was very celebrated, and we find in old German books glowing accounts of their magnificent lutes ornamented with elaborate deſigns in ſilver, gold, and jewels. It appears, therefore, probable, that the name of Joachim Tielke was kept up through ſeveral generations, juſt as is now done by muſical inſtrument makers who have obtained a high reputation; and thus the apparent diſcrepancy in the dates of Joachim Tielke's works, above noticed, may perhaps be ſatisfactorily accounted for.

Attention muſt alſo be drawn to the old viola da gamba bow, placed near this inſtrument. Such a bow is now extremely ſcarce; but it may be known to muſical inquirers from repreſentations in ſome old pictures. It was held in a peculiar manner, as may be ſeen in the illuſtration, Fig. 103, copied from 'The Diviſion Viol,' by Chriſtopher Simpſon, London, 1667, which nearly correſponds with the rule given by John Playford in his 'Brief Introduction to the Art of Deſcant,' London, 1683:—"Hold the bow betwixt the ends of your thumb and forefinger, an inch below the nut, the thumb and forefinger reſting on the wood, the ends of your ſecond and third fingers ſtaid upon the hair, by which you may poiſe and keep up your bow. Your bow being thus fixed, you muſt draw it over one ſtring, and then another, in a right angle, about two or three inches above the bridge, making each ſeveral ſtring yield a clear ſound without touching the other."

As to tuning, Playford gives the following ſingular rule:—"When you begin to tune, raiſe your *treble* or ſmalleſt ſtring as high as conveniently it will bear without breaking. Then ſtop only your *ſecond* or *ſmall mean* in *F*, and tune it till it agree in uniſon with your *treble* open. That done, ſtop your *third* in *F*, and make it agree with your *ſecond* open. Then ſtop your *fourth* in *E*, and make it agree with your *third*

open. Then ſtop your *fifth* in *F*, and make it agree with your *fourth* open. And laſtly, ſtop your *ſixth* in *F*, and make it agree with your *fifth* open. This being exactly done, you will find your viol in tune according to the rule of the *Gam-ut*."

(46.)

SEVEN-STRINGED Viola da Gamba. *Italian.* Second half of the 17th century.

The oldeſt viola da gambas had generally ſix ſtrings, and were provided with frets.

The innovation of uſing ſeven ſtrings came into vogue through the French muſician Marais. When the violoncello began to ſupplant the viola da gamba, in the eighteenth century, many a fine-toned gamba was transformed into a violoncello by an alteration of the finger-board and the adoption of four ſtrings.

(148.)

TENOR-VIOL. *Engliſh.* 17th century.

The *tenor-viol*, a ſmall viola da gamba, has ſix ſtrings, which are tuned a fourth higher than thoſe of the *baſs-viol*, or the larger kind of viola da gamba. John Playford, in 'A Brief Introduction to the Art of Deſcant,' London, 1683, remarks, "The tenor-viol is an excellent inward part, and much uſed in conſort, eſpecially in Fantaſies and Ayres of 3, 4, 5, and 6 parts."

(140.)

COUNTER-TENOR-VIOL. *Engliſh.* 17th century. Inſide is the inſcription, *Henry Jay, in Southwarke*, 1667. Finely carved ſcroll. The belly has, beſides the uſual two ſound-holes, an oval hole in the middle, with an ornamental roſe. Six-ſtringed. Catgut frets. It was probably tuned a

fifth higher than the viola da gamba. The back of the body has a peculiar curve towards the end. Probably the inſtrument was intended to reſt on the ſhoulder when played.

(119.)

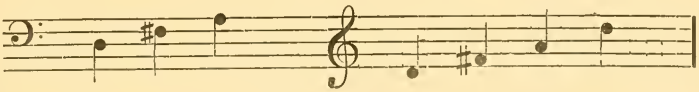
TREBLE-VIOL. *Engliſh.* About 1700. Carved head. Six ſtrings. Catgut frets. It was tuned an octave higher than the viola da gamba.

(77.)

VIOLA d'Amore. *Italian.* 17th century. Old-faſhioned ſhape. Seven catgut ſtrings; underneath them ſeven ſtrings of thin ſteel wire.

Meyerbeer, Berlioz, and ſome other compoſers of the preſent century, have endeavoured to revive the uſe of this inſtrument in the orcheſtra on account of the ſweetneſs of its tone. The ſeven wire ſtrings placed underneath the catgut ſtrings are tuned in uniſon or in octaves with the latter, to increaſe the ſonorouſneſs by ſlightly vibrating when the bow is drawn over the catgut ſtrings. The "ſympathetic ſtrings," as they are called, ſhould be of very thin ſteel wire. It is now almoſt impoſſible to procure ſuch thin ſteel ſtrings as were formerly uſed on this inſtrument, as well as on the cither or pandore, and as are ſtill uſed by the Hindus on their *tamboura.* When the King of Oude viſited London, he could not find ſteel wire thin enough to replace the broken ſtrings of his *tamboura.*

The *viola d'amore* is uſually tuned in the following intervals :—



But it was formerly the cuſtom to adopt occaſionally another ſeries of intervals, in accordance with the major or minor key in which the compoſition, wherein the viola d'amore had to take part, was written.

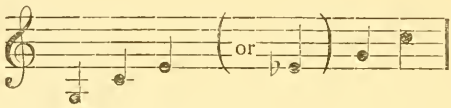
Burney ('Hiſtory of Muſic,' vol. iv. p. 257), in recording that Attilio Arioſti—or "Padre Attilio," as he was uſually called—played the *viola d'amore* in London in the year 1716 between the acts of an opera,

remarks: "This was the firſt time that ſuch an inſtrument had been heard in England." From this ſtatement it would appear that the *viola d'amore* had, about the year 1700, fallen ſo entirely into oblivion in England that foreigners could introduce it as a new inſtrument. John Playford deſcribes its conſtruction in his 'Muſick's Recreation on the Viol Lyra-way,' London, 1661.

(157.)

VIOLA d'Amore. Strung entirely with wire. A curiouſly conſtructed head with a carved female buſt. Probably *Engliſh.* 17th century.

The *viola d'amore* ſtrung entirely with wire appears to have been a novelty to Evelyn, for he records in his Diary of November 20, 1679, "I dined with Mr. Slingſby, Maſter of the Mint, with my wife, invited to hear muſic, which was exquiſitely performed by four of the moſt renowned maſters: Du Prue, a Frenchman, on the lute; Signor Bartholomeo, an Italian, on the harpſichord; Nicholao, on the violin; but above all, for its ſweetneſs and novelty, the *viol d'amore* of five wire ſtrings played on with a bow, being but an ordinary violin played on lyre-way by a German." Mattheſon ('Das Neu-Eröffnete Orcheſtre,' Hamburg, 1713) deſcribes the *viola d'amore* as being mounted with four wire ſtrings, and with one catgut ſtring for the higheſt tone. He ſays that it was uſually tuned according to the common chord of C-major or C-minor, thus:—



Mattheſon praiſes its ſweetneſs of ſound, but does not mention the ſympathetic ſtrings. The transformation of the wire-ſtrung *viola d'amore* into the ſo-called pſaltery or ſultana, which has no ſympathetic ſtrings, is indicated in the following ſtatement by Sir John Graham Dalyell ('Muſical Memoirs of Scotland,' Edinburgh, 1849), "The inſtrument was firſt introduced in public in London during the year 1715, when it was heard between the acts of an opera. It was known in Scotland in the middle of the century, and a taſte for it was probably encouraged by the performance of Paſſerini, an Italian reſident in Edinburgh, in the year 1752, when it was ſaid to be a new inſtrument called

viole d'amour. Paſſerini was manager of the Gentleman's and St. Cecilia Concert, where he and his wife had a permanent engagement as ſkilled muſicians. He played ſolos and accompanied ſinging with the inſtrument. Perhaps the *viole d'amour* underwent ſeveral modifications, as its name was changed to *pſaltery*, in the belief of its being the ancient inſtrument ſo denominated, which is quite different according to moſt authorities, not belonging to the fidicinal tribe. In 1754 a concert for the new inſtrument called the *pſaltery* was announced for Signor Caruſi's benefit concert in Edinburgh, and performed by Paſquali, another Italian muſician, alſo reſident there. From its ſoft and ſimple nature it was eulogiſed in 1762 as unequalled for delicacy and ſweetneſs. I knew a lady many years ago in Edinburgh who played melodies with great delicacy on this inſtrument, which was ſtrung with wire, and had frets on the finger-board." From theſe accounts it would appear that the *viola d'amore* ſtrung entirely with wire was not much uſed in England before the year 1700, although it evidently exiſted in this country in the ſeventeenth century.

(48.)

SORDINO. The body of tortoiſe-ſhell. With a carved head of wood and ivory. *Italian*. About 1600. Length of the entire inſtrument, 14 in.

About three hundred years ago the *ſordino* was kept by gentlemen in a little caſe reſembling a pen caſe, which they put in the pocket when they went to a ſinging party; and they uſed the inſtrument for inſuring correct intonation while ſinging madrigals and catches. Kircher, in his 'Muſurgia Univerſalis,' Romæ, 1650, calls it *linterculus*, no doubt from its reſemblance to a ſmall boat.

(50.)

VIOLETTA Piccola. The ſmalleſt kind of the old viol inſtruments, ſhaped with a ſlanting neck like the viola da gamba, or baſs viol. This ſmall ſpecies of treble viol was called by the French *Haute-contre*. *Italian*. 17th century.

(51.)

FIVE-STRINGED Viol. Called by the French *Quinton.* Labelled inſide with the inſcription, *Antonius Gragnani fecit, Anno* 1741. *Italian.* 18th century. With it is placed a fluted bow made by Betts in the 18th century.

Betts and Dodd are the Engliſh makers whoſe bows are held in the higheſt eſteem.

(52.)

SIX-STRINGED Viol. Called by the French *Par-deſſus. French.* 17th century.

With this inſtrument is placed an old-faſhioned bow of the kind known in England as the *Corelli-bow.* It has no ſcrew for tightening or ſlackening the hair, and is altogether different in ſhape from our preſent violin bow.

(53.)

VIOLIN. The work, if we may rely on the label inſide, of Gaſpar di Salo, the celebrated Italian maker, whoſe inſtruments date from about 1560 to 1610.

Varniſh and colour are nearly gone, but the tone of this inſtrument is far better than its appearance indicates.

(54.)

VIOLIN. Oblong. *Engliſh.* Beginning of the 18th century.

A curioſity in its way, and worthy of examination, if only as an evidence that the uſual form of the violin is the beſt hitherto diſcovered for the acouſtic perfection of the inſtrument.

(55.)

VIOLIN. *German.* 16th century.

A very old-fashioned shape of the instruments of the viol class.

(56.)

SULTANA (or Psaltery, Cither-Viol.) Played with a bow, like the violin. *Irish.* Made by Thomas Perry, Dublin, 1767.

Perry made larger instruments of this kind, mounted with pairs of wire strings, like the old English cittern.

The idea of using the bow with instruments of the cither kind is old; it has been taken up again recently in Germany, as is exemplified by the *streichzither*, a modern instrument from Bavaria, previously described. (See p. 259.)

(57.)

NAIL-VIOLIN. The first instrument of this description was invented by a German musician, Johann Wilde, living in St. Petersburg about the year 1740.

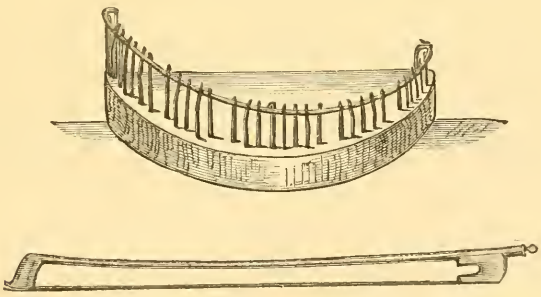


Fig. 142.—Nail Violin.

One evening, after returning home from a concert, Wilde, in hanging his violin bow on a nail, accidentally produced a tone by

drawing the hair of the bow over the metal, whereupon he conceived the idea of conſtructing a muſical inſtrument of nails. And that he has ſucceeded in producing a fine-toned, if not a practically recommendable inſtrument, will probably be granted by all who draw the large black-haired bow over the iron pins. The bow is beſt made with black hair, for white hair is ſofter, and does not "bite" ſo well for ſuch an iron fiddle. It muſt alſo be plentifully ſupplied with reſin to make it bite well. The performer holds the inſtrument in his left hand, placing his fingers in the hole beneath.

Probably, owing to the quality of its ſound, the *nail-violin* is alſo called *nail harmonica* (German, *Nagel-harmonika*). Several attempts have been made in Germany further to perfect it.

Dulcimers, Organ-Hurdygurdy, &c.

(58.)

DULCIMER. With movable bridges like the dulcimer (*ſantir*) of Eaſtern nations. *Engliſh.* Made, according to an inſcription inſide, at Old Weſton, Huntingdonſhire, in 1846.

Modern as this ſpecimen is, it is of the old ſtamp, and may be regarded as a faithful repreſentation of the dulcimer mentioned in the Engliſh tranſlation of the Bible. It need hardly be added that the tranſlators of the Bible, unacquainted with the muſical inſtruments mentioned in the original text, adopted for them the names of thoſe in uſe in their day which appeared to them to correſpond moſt nearly with thoſe of the Hebrews and Greeks. The dulcimer has evidently not undergone any material alteration ſince the time of the tranſlation of the Scriptures.

(59.)

SALTERIO. *Italian.* Made by Antonio Bertifece at Florence, in the year 1745.

It may be found intereſting to compare this Italian dulcimer with the Engliſh one juſt noticed, and with the Chineſe *yang-kin* deſcribed on page 312.

(169.)

ORGAN-HURDYGURDY. (French, *vielle organiſée.*) *Engliſh.* About 1750.

This inſtrument was made by a Frenchman living in London. Some portions of it have been reſtored in the preſent century. In England the *vielle organiſée* was alſo called, rather inappropriately, "flute-cimbal." The organ portion has two ſtops, and can be diſ-engaged from the hurdygurdy, ſo that either may be played ſeparately or both together.

(104.)

MONOCHORD for tuning the Harpſichord. *Engliſh.* 18th century. With a label bearing the inſcription, *Longman and Broderip's Patent Tuning Machine.*

A ſimilar contrivance was patented in England by Wardhaugh Thompſon in the year 1787. The mechaniſm is contained in an oblong-ſquare wooden box, in which a wire ſtring is ſtretched from end to end, and ſupported at two points by bridges. The ſtring reſts on a movable jack intermediate between the two bridges. A ſlider moves by the action of a rack and pinion, worked by a winch along a braſs frame at the bottom of the box. A "braſs chop," acted on by a ſpring above it, preſſes the ſtring down on a bridge or croſs pillar, and thus defines its length. A ſcale and an index are attached to the box. The directions given for tuning the harpſichord, ſpinet, &c., are as follows: "Put the ſtring of the machine to concert pitch by a C tuning fork, placing the ſlide ſo as to give the ſtring its full length, after which tune the loweſt note of the following ſcale in uniſon with it, and proceed by transferring the ſlider in its natural progreſſion from ſpace to ſpace, tuning each interval agreeable to the notes, or tones, marked thereon to the end of the ſcale, after which tune the octaves aſcending from C to the higheſt note, and then by octaves deſcending from B to the loweſt note."

A few words are here added to plead for the protection of ſuch antiquated muſical inſtruments as may have eſcaped deſtruction, from careleſs expoſure to duſt and damp, or other cauſes of injury. It is ſurpriſing how ſoon muſical inſtruments become ſcarce when they are no longer in popular demand. How ſeldom is a harpſichord now ſeen! Yet it was ſtill in favour as recently as at the beginning of the preſent century. Wind inſtruments are, on the whole, more durable than ſtringed inſtruments; and ſearches in likely places might perhaps lead to the recovery of ſome intereſting ſpecimens of the *ſackbut*, *ſhalm*, *recorder*, and ſuchlike trumpets and pipes mentioned by Shakeſpeare and other writers, but now to moſt people known by name only. Perhaps ſome well-preſerved relics of this kind may ſtill be ſtowed away in the lumber rooms of old manſions; and this hint may poſſibly have the effect of reſcuing a few from oblivion. Are there not in ſome of the cathedrals ſtore rooms containing relics of articles which were uſed in religious performances before the time of the Reformation? Surely, ſome ſuch objects muſt have eſcaped demolition by religious enthuſiaſts. Among theſe relics may poſſibly be found the *regals*, a portable organ which was uſed by the Roman Catholics in their proceſſions. Howbeit, the careful preſervation of any muſical antiquities cannot but be advocated by everyone intereſted in the hiſtory of the art of muſic.

APPENDIX No. 2.

SOME ACCOUNT OF THE SPECIAL EXHIBITION OF ANCIENT MUSICAL INSTRUMENTS IN THE SOUTH KENSINGTON MUSEUM, ANNO 1872.

IN the month of Auguſt 1871 it was decided by the Right Honourable the Lords of the Committee of Her Majeſty's Moſt Honourable Privy Council on Education, aſſembled at the South Kenſington Muſeum, that an Exhibition of Muſical Inſtruments made before the year 1800, together with drawings and caſts of ancient inſtruments, ſhould be opened in the month of June 1872.

The deſign owed its origin, in ſome meaſure, to the arrangement adopted for the London International Exhibition of the year 1872. It muſt be remembered that in the ſeries of London International Exhibitions which commenced in 1871, there are certain manufactures aſſigned to each year's exhibition. In the year 1872 modern muſical inſtruments, exemplifying their lateſt improvements, conſtituted one of the ſpecialities.

The Committee for promoting the Special Exhibition of Ancient Muſical Inſtruments conſiſted of—H.R.H. the Duke of Edinburgh, K.G.; the Duke of Leinſter; the Marqueſs of Exeter; the Marqueſs of Weſtminſter, K.G.; the Earl of Warwick; the Earl of Wilton; the Lord Gerald Fitzgerald; the Hon. Seymour Egerton; the Right Hon. Sir John Pakington, Bart., M.P., G.C.B.; the Rev. Sir Frederic G. Ouſeley, Bart.; Sir Coutts Lindſay, Bart.; Sir John Harington, Bart.; Sir Robert Stewart, Bart.; Sir M. D. Wyatt; Sir Julius Benedict; Sir George Elvey; Sir Sterndale Bennett; Sir John

Gofs; Mr. Francefco Berger; Mr. W. T. Beft; Mr. W. Broadwood; Mr. A. Chappell; Mr. Cheyne; Mr. Cole, C.B.; Mr. W. G. Cufins; Profeffor J. Ella; Mr. Carl Engel; Mr. G. Grove; Mr. John Hullah; Mr. Henry Leflie; Dr. Charles Maclean; Profeffor Oakeley; Mr. P. Cunliffe Owen; Mr. J. F. Puttick; Mr. Redgrave, R.A.; Dr. Rimbault; Mr. A. Sullivan; Mr. R. Thompfon; Mr. G. F. Watts, R.A.; M. Ambroife Thomas, Director of the Confervatoire at Paris; M. G. Berger; M. Gallay; M. Lecomte; M. Vuillaume; Signor G. Gafpari, of the Confervatoire at Bologna; Mr. Alan Cole, *Secretary*.

The Executive Committee appointed confifted of—H.R.H. the Duke of Edinburgh; the Lord Gerald Fitzgerald; Mr. Henry Leflie; Mr. Philip Cunliffe Owen; and Mr. Alan Cole, *Secretary*. A French fub-committee was appointed in Paris, confifting of M. Gallay, M. Georges Berger, M. Lecomte, who acted as *Secretary*, and M. Vuillaume, who was invited to fuperintend the arrangement of the Italian ftringed inftruments.

The project was readily taken up by private collectors, as might be expected, not only in England, but alfo on the continent. Moreover, the South Kenfington Mufeum had in its permanent collection an excellent nucleus for the foundation of the Special Exhibition. The number of exhibitors amounted to about one hundred and thirty.

A catalogue was prepared. It contains an Introduction in which an account is given of the principal collections of mufical inftruments which have been formed in different countries. Some inaccuracies in the catalogue, owing to the neceffity of its being in print before the opening of the Exhibition, when not all the inftruments defcribed had arrived, have been rectified in a revifed edition, of which a number of copies were printed for diftribution among the lenders. This edition contains photographs of interefting inftruments which were exhibited.

After the labours of the Committee had refulted in the formation of a remarkable collection, the Exhibition was opened on Saturday June 1, and continued open until the end of September. A collection of mufical antiquities fo comprehenfive and valuable had probably never before been brought together under one roof. It is, however, unneceffary to expatiate on this queftion, fince the reader may judge of the extent of the collection from the following furvey.

It contained upwards of five hundred inftruments, arranged in eight claffes, viz.:—

Clafs 1. Stringed inftruments provided with a key-board.
Clafs 2. Stringed inftruments played with a bow.
Clafs 3. Harps, lutes, guitars, cithers, dulcimers, &c.

Claſs 4. Trumpets, horns, and ſimilar wind inſtruments.
Claſs 5. Flutes, oboes, and ſimilar wind inſtruments.
Claſs 6. Organs, and other inſtruments containing organ pipes or tongues of metal.
Claſs 7. Miſcellaneous inſtruments.
Claſs 8. Ethnological ſection.

As theſe claſſes are examined ſeparately in the following pages, it would be ſuperfluous to give here any explanation of the arrangement adopted in the catalogue.

CLASS I.

Stringed Instruments provided with a Key-board.

The inſtruments with a key-board here gathered together, amounting to above forty in number, conſiſted chiefly of ſuch as have their ſtrings made to vibrate by means of quills, or ſimilar contrivances, which ſerve as *plectra*. Of this conſtruction, and therefore of the ſame family, although widely different from each other in outward appearance as well as in certain points of mechaniſm, are the ſpinet, the virginal, and the harpſichord (Italian, *clavicembalo*; French, *clavecin*; German, *clavicymbel* or *flügel*).

The ſmall Italian ſpinet of the 16th century was repreſented by ſome very intereſting ſpecimens. Theſe ſpinets, in ſhape not unlike the dulcimer, are open at the top and have no ſtand. Probably they were originally kept in a caſe, as was alſo the *ſalterio* or Italian dulcimer. When wanted for uſe, the inſtrument was taken out of its caſe and placed upon a table.

There were exhibited ſome Engliſh *virginals* of the uſual oblong-ſquare ſhape. One of theſe bears the inſcription *Joſeph Looſemore fecit* 1655. Another, lent by Mr. H. Gill of Nottingham, was made by Thomas White in the year 1653, and is decorated with Jacobin ornaments in relief, and with a rudely-painted repreſentation of Orpheus on the folding lid.

Mr. C. M. Holdich, Iſlington, exhibited a virginal, probably Engliſh, which bears the inſcription *Lodovicvs Grovvelvs me fecit* 1600. The lid is painted with biblical ſubjects.

Although in England the name Virginal was given principally to the oblong-ſquare ſpinet, it would appear that any ſmall ſpinet intended for ladies was thus deſignated. Queen Elizabeth's virginal, exhibited by Mr. Charles Greſley, The Cloſe, Lichfield, rather reſembles in ſhape the

Italian ſpinets of the 16th century by Annibal dei Roſſi, and Marcus. Its caſe, made of cedar, is covered with crimſon Genoa velvet, upon which are three ancient gilt locks finely engraved. The inſide of the caſe is lined with ſtrong yellow tabby ſilk. The whole is in a high ſtate of preſervation, light and portable, being five feet long, ſixteen inches wide, and ſeven inches deep. The front is covered entirely with gold, having a border round the inſide two inches and a half broad. There are fifty keys with jacks and quills; thirty of them are of ebony tipped with gold, and the ſemitone-keys (twenty in number) are inlaid with ſilver, ivory, and different kinds of wood, each key conſiſting of about 250 pieces. The royal arms of Queen Elizabeth at one end are moſt exquiſitely emblazoned; at the other end is a dove, riſing luna-crowned, holding in its right foot a ſceptre, and ſtanding upon an oak tree cooped and eradicated. The painting is done upon gold with carmine-lake and ultramarine, and the ornaments are minutely engraven upon gold, which gives the inſtrument a very beautiful appearance. This virginal was purchaſed at Dudley in Worceſter-ſhire about the year 1840, by the late Rev. J. M. Greſley, from a perſon who ſaid that it came from Fiſherwick. According to an account in the Gentleman's Magazine of 1815, it formerly belonged to Lord Chicheſter, at whoſe ſale, at Fiſherwick, it was bought in the year 1803, by Mr. Jonas Child, a painter at Dudley.

There are, it is ſaid, ſeveral virginals once belonging to Queen Elizabeth ſtill extant in different parts of England. Queen Elizabeth was notoriouſly fond of muſic, and nothing is more likely than that ſome of her muſical inſtruments have been carefully preſerved, although their hiſtory may not be exactly traceable.

A miniature ſpinet, or virginal, lent by M. Céſar Snoeck, bears the inſcription, "Paulus Steiniche me fecit, Anno 1657." It reſembles the *ottavino*, of which alſo ſome ſpecimens were exhibited.

The larger inſtrument of the kind under conſideration, which in England was known by the name of ſpinet, ſomewhat reſembles the harpſichord in ſhape, and has a ſtand. The Exhibition contained ſome ſpecimens, which had been reſtored to a playable condition. The ſpinet of this odd-looking ſhape, oblique at one ſide, was alſo in uſe on the continent, whence it may have been originally introduced into England, ſince many of the Engliſh harpſichord makers were foreigners.

Meſſrs. Kirkman exhibited an Engliſh ſpinet, made by Pleyer, about 1710 to 1720. It has a compaſs of $4\frac{1}{4}$ octaves; its lower keys are black, and the others are white. Strange enough, the laſt two upper-

keys in the bafs are divided fo as to produce demi-femitones, or quarter-tones.

Sir Sterndale Bennett lent an Englifh fpinet of the 17th century, made by Thomas Hitchcock. It has been carefully reftored.

A French *épinette*, probably made in the beginning of the 18th century, difplayed in its outward appearance much more elegance and embellifhment than the Englifh fpinets, its decoration being in vermilion, blue, and gold, with raifed Japanefe figures.

Of the *clavicytherium*, or the upright fpinet (French, *clavecin vertical*) there was only one fpecimen, exhibited by M. Laconi of Paris. Its cafe, ornamented with paintings of Orpheus, &c., refted vertically on a gilt ftand. This kind of fpinet appears to have been formerly known alfo in England. In the Inventory of King Henry VIII.'s mufical inftruments we find mentioned " A pair of new long Virginalls made harp-fafhion, of Cipres, with keys of ivory, having the King's arms crowned and fupported by his Grace's beaftes within a garter gilt, ftanding over the keys ;" this was probably a *clavicytherium*. The inftrument had originally a ftop, or regifter, which would caufe the ftrings to be twanged by fmall brafs hooks, whereby a quality of found was produced refembling that of the harp ; hence the name " *arpichord*," by which Prætorius in his 'Syntagma Muficum,' &c., Wolfenbüttel, 1619, defcribes the *clavicytherium*.

It muft be remembered that about three centuries ago the various fpinets, more or lefs differing from each other in fhape, and alfo in the pofition of the ftrings,—fome kinds having the ftrings running acrofs, and others obliquely,—were diftinguifhed by names which were not always ftrictly adhered to. During the 16th century the common fpinet was called in Germany *fymphonia*,—a name which was formerly applied alfo to other mufical inftruments, and which evidently was ufed much in the fame fenfe as the Greeks ufed the word *organon*. Again, during the 17th and 18th centuries, the fpinet was called in Germany fimply *Das Inftrument*, and the fame name was afterwards ufed to defignate the fquare pianoforte. The German *clavicymbalum*, alfo called *gravicymbalum*, had the fhape of a grand-piano, and was provided with two or more ftrings for each tone. It was, in fact, the harpfichord of the Englifh, and the *clavecin* of the French.

There were fome fine fpecimens of the continental harpfichord in the Exhibition, among which are deferving of fpecial mention :—

A *clavicembalo* of the 17th century, lent by Le Comte de Sartiges. To this gorgeous inftrument, which is faid to have belonged to Donna

Olympia Maildachini Pamphyli, ſiſter-in-law of Pope Innocent X., are attached ſeveral large figures, carved in wood and gilt, which repreſent allegorically the power of muſic.

A *clavicembalo* of the 17th century, ſaid to have belonged to Queen Chriſtina of Sweden. Ornamentation of bronze gilt on a red ground.

A French *clavecin* with double row of keys, dated 1612, and further inſcribed "Mis à ravellement par Paſcal Taſkin à Paris 1774." It is painted with ſcenes of the period of Louis XIV., by Vander Meulen, and is ſaid to have formerly belonged to Marie Antoinette. Lent by Viſcount Powerſcourt.

A *clavecin*, made in the year 1779 by Sébaſtian Erard in Paris, the founder of the great pianoforte manufactory, who came from Straſſburg. This neatly-made harpſichord, which, we are told, "created ſenſation in Paris," has four rows of jacks, three of which are with crowquills and one is with buff leather. Lent by Madame Erard.

Two harpſichords made by Andreas Ruckers at Antwerp, dating from the years 1639 and 1651, require to be mentioned here as intereſting ſpecimens of workmanſhip of the moſt celebrated harpſichord maker of the 17th century; but as they belong to the Muſeum, the reader may be referred to the deſcription of them in the Catalogue.

The Exhibition contained two large Engliſh harpſichords of Kirkman's manufacture, which have been reſtored to their original playable condition. One of them bears the inſcription, "Jacobus Kirkman, London, 1772;" and the other, "Joſephus Kirkman, London, 1798." They are ſpecimens of the ſo-called double-harpſichord, or full grand harpſichord, with two key-boards, ſix ſtops, and two pedals. One of them is provided with a Venetian ſwell, which by means of one of the pedals will open and cloſe like the ſwell of an organ. In the year 1769 Burkat Shudi (Burkhardt Tſchudi) took out a patent in London for a kind of Venetian ſwell, by which the loudneſs of the harpſichord could be regulated at pleaſure. This was, however, hardly to be regarded as a new invention, ſince a ſimilar contrivance was common enough on the organ, and the continental organs not unfrequently had a ſo-called Echo, or pipes placed in a box, which the player could open or cloſe at will.

As the directions for uſing the ſtops and pedals of the Engliſh double-harpſichord afford an inſight into the capabilities of the inſtrument, they may find a place here:—

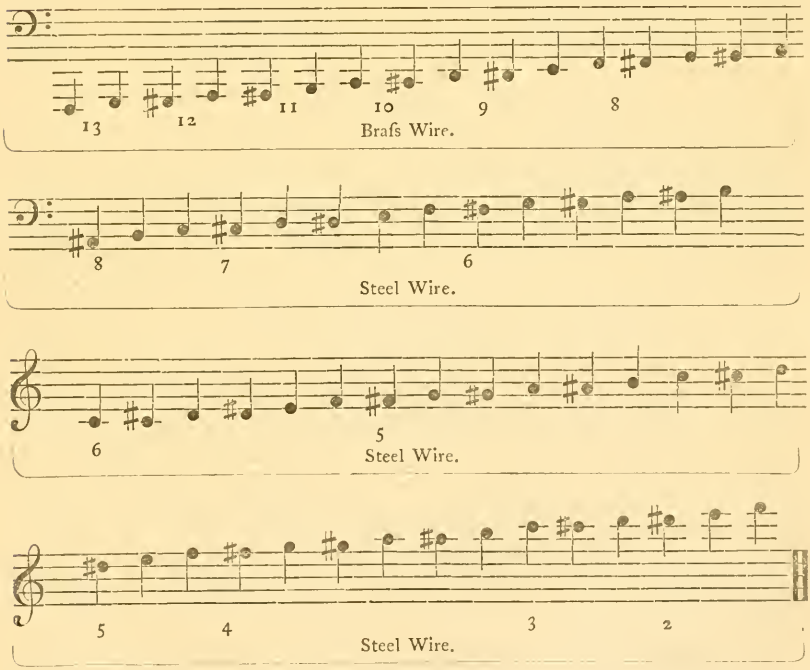
Firſt Uniſon—Pull out firſt ſtop on right hand. This ſtop acts on both rows of keys. *Second Uniſon*—Puſh in ſecond ſtop on right hand. This ſtop acts on the lower row of keys only. *Octave Stop*—Puſh in

firſt ſtop on left hand. This ſtop acts on the lower row of keys only. *Lute Stop*—Puſh in ſecond ſtop on left hand. This ſtop acts on the upper row of keys only. *Buff Stop*—Puſh in third ſtop on left hand. This ſtop acts on lute ſtop and firſt uniſon. *Left Pedal Stop*—Puſh forward ſingle ſtop on left hand. This ſtop will put on the octave ſtop and the firſt uniſon ſtop. *Left Pedal*—Will take off the octave ſtop and the firſt uniſon ſtop, and will put on the lute ſtop. *Right Pedal*—Works Venetian ſwell. *To obtain Half Power*—Pull out the firſt uniſon ſtop, and puſh in the octave ſtop. *To obtain Full Power*—Pull out the firſt uniſon ſtop, and puſh in the ſecond uniſon ſtop and the octave ſtop.

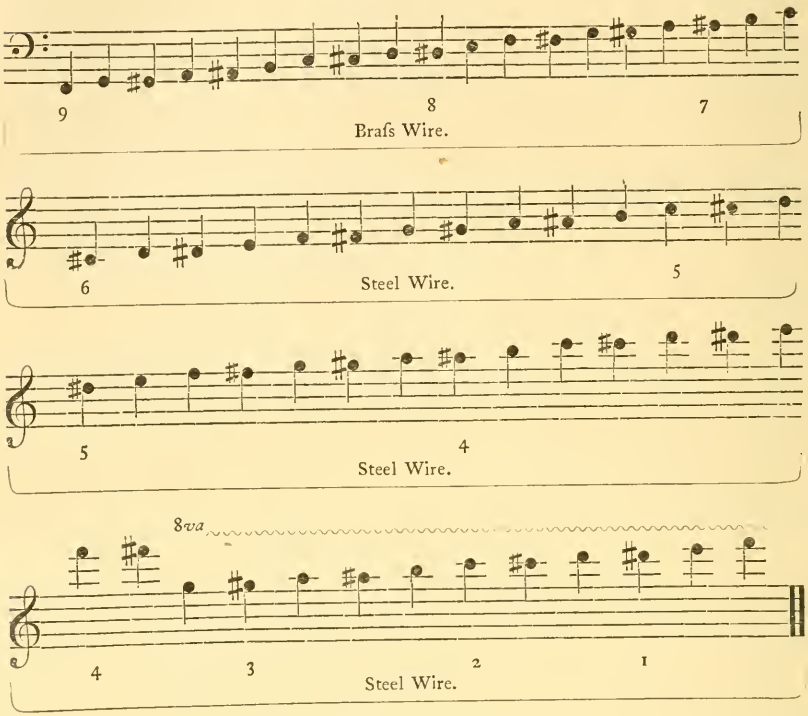
By means of the various combinations of ſtops and pedals above twenty different modifications of ſound are obtainable. The ſtrings are remarkably thin compared with thoſe uſed at the preſent day on the pianoforte, which commences in the treble with ſtrings of about the thickneſs with which the harpſichord finiſhes in the baſs.

The following are the numbers of the gauge of the ſtrings required. It will be obſerved that the loweſt *f-ſharp* is omitted on the inſtrument.

Uniſon Stops and Lute Stop.



Octave Stop.



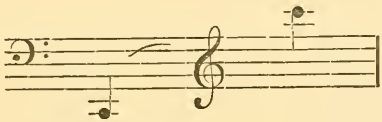
A remarkably fine-toned Engliſh harpſichord, ſtill in a playable condition, may be mentioned here. It has two rows of keys. Over the higher keyboard is the inſcription *Jacobus et Abraham Kirkman, fecerunt* 1773. It has ſix ſtops and two pedals. The cover of the caſe is divided into two parts, one of which can be raiſed by means of the pedal for the right foot; thus the *creſcendo* and *decreſcendo* are produced. Only the lute ſtop has crowquills; the other ſtops have ſmall pieces of prepared leather. The ſubſtitution of leather for quills cauſes the ſound more to reſemble that of the pianoforte, and produces a pleaſant contraſt when the lute ſtop with its crowquills is uſed alternately with the other ſtops. The variety of colour of ſound obtainable by the combination of different ſtops is very effective. This inſtrument exhibits probably the higheſt degree of perfection ever attained in the conſtruction of the harpſichord, although it was not until the beginning of the preſent century that the manufacture of harpſichords was entirely diſcontinued in England.

J. Peter Milchmayer, in Mayence, conſtructed about the year 1780 a harpſichord with three key-boards, on which, it is recorded, 250

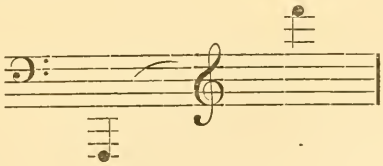
changes of ſound could be produced; but this contrivance appears to have proved of as little practical value for muſical performances as the *Archicembalo*, with quarter-tones invented in the ſixteenth century by Nicola Vicentino; or the complicated *Clavicymbalum perfectum*, which Prætorius ſaw in the beginning of the ſeventeenth century at Prague.

There were only two *clavichords* in the Exhibition. Of one of theſe, lent by the Rev. C. B. Riddell, Harrietſham Rectory, Maidſtone, it is ſaid "that it belonged to Handel, and that it was uſed by him for compoſing on journeys." It dates from the year 1726, and was probably made in Germany. It meaſures only thirty-two inches in length and ten inches in width; it has no ſtand, and was evidently intended to be placed on a table or on the lap when it was to be played upon. The other clavichord, a much larger inſtrument, was made towards the end of the laſt century in Einbeck, a ſmall town near Hanover; it has two ſtrings for each tone.

The *clavichord* and the *hurdy-gurdy* are, it would appear, the oldeſt ſtringed inſtruments with keys. The *clavichord* was, about a thouſand years ago, a *monochord* with ſome rude keys attached to *tangents*, which may be regarded as bridges or frets. By means of them it was poſſible to produce a ſeries of tones on a ſingle ſtring, ſince the pitch of ſound depended upon the diſtance of the place at which the tangent touched the ſtring. Thus, as many tones were obtained from one ſtring as there were tangents under that ſtring,—almoſt preciſely as is ſtill the caſe with the hurdy-gurdy. In the beginning of the eighteenth century the *clavichord* was in Germany ſtill often made with ſtrings for the diatonic ſcale only, the chromatic tones being produced by additional tangents. At the time of Handel and J. S. Bach the compaſs of the *clavichord*, as well as of the *clavicembalo* in Germany, uſually compriſed only four octaves, thus:—



Not until towards the end of the eighteenth century was it extended to five octaves, thus:—



The clavichord is oblong-ſquare in ſhape, as ſhown in the annexed engraving, Fig. 143, which repreſents a ſpecimen, dating from the

eighteenth century, manufactured in Germany, where it is called *klavier.*

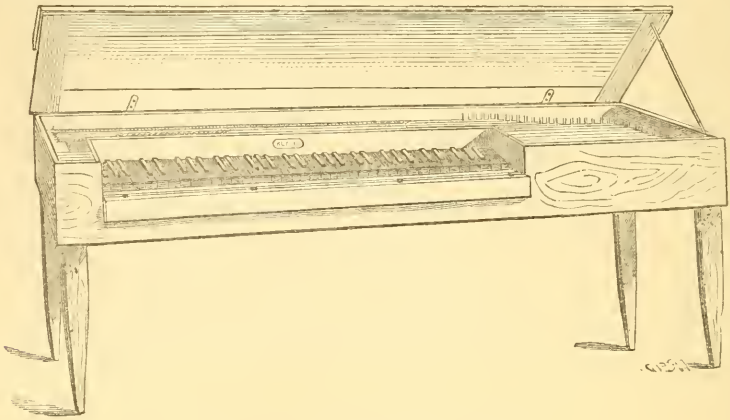


Fig. 143.—German Clavichord.

The fimple conftruction of the clavichord permits a delicacy of touch very agreeable to muficians who appreciate refinement of expreffion far more highly than brilliancy of tone. The very foftnefs and unpretentioufnefs of its found, combined with its remarkable power of expreffion, might well render the inftrument ufeful to muficians even at the prefent day, notwithftanding the progrefs which has been made in many refpects as regards other ftringed inftruments with keys. No wonder that at a time when the pianoforte was in its infancy, our great mufical compofers fhould have preferred in their ftudies the ufe of the clavichord to that of the harpfichord, on which modifications of expreffion are obtained not fo much by the touch as by means of ftops and pedals. It is well-known that J. S. Bach was efpecially fond of the clavichord, and Handel likewife appears to have confidered it particularly fuitable for practice, to lay a good foundation for the treatment of the harpfichord and organ. In the 'Autobiography of Mrs. Delany,' edited by Lady Llanover, we are told that Mr. Granville poffeffed a mufic book given to him by Handel, entitled 'Krieger (Johann) Organiften und Chori Mufici Directore in Zittau, Anmuthige Clavier-Uebung, Nürnberg, 1699,' in which Mr. Granville, from converfation with Handel, has written the following memorandum: "The book is by one of the celebrated organ-players in Germany. Mr. Handel in his youth formed himfelf a good deal on his plan, and faid that Krieger was one of the beft writers of his time for the organ; and, to form a good player, but the clavichord muft be made ufe of by beginners inftead of organ or harpfichord."

At any rate it cannot but be interesting to musicians to play on the clavichord the old precious *Suites* by Bach and other great masters as they were intended to be played.

Several expedients have been resorted to for the purpose of obtaining different qualities of sound on the clavichord. For instance, a so-called lute stop was contrived as follows :—The tangents, having been made of about twice the usual width, were covered one half of their width with cloth or leather, and the key-board was constructed so that it could be drawn slightly forward or pushed in by means of a stop. When the covered part of the tangent was caused to strike under the string the sound produced somewhat resembled that of the lute. Again, to increase the loudness and sonorousness of the clavichord, Gottfried Silbermann of Freiberg constructed, in the beginning of the eighteenth century, an instrument of this kind, in which the strings were of twice the usual length, and the tangents were placed in the middle, so that when a string was struck, two tones in unison were produced. Silbermann called his invention *Cembal d'Amour*,—a name hardly appropriate, since the mechanism did not resemble that of the clavicembalo, but was actually the same as that of the clavichord.

As regards the *Pianoforte*, it cannot be said that the old specimens which were in the Exhibition sufficed to illustrate its earlier history.

The invention of the pianoforte was formerly ascribed to Christoph Gottlieb Schröter, who, in the year 1721, presented to the King of Saxony a small model of such an instrument, which he is said to have invented in the year 1717. But the claim of Germany to having originated the pianoforte is contested by Italy, France, and England. In Italy, Bartolomeo Cristofali at Florence substituted, in the beginning of the eighteenth century, little hammers for the jacks and quills in the *clavicembalo*, an invention which he called *cembalo a martelletti*, and of which Scipione Maffei has given an account in 'Giornale dei Letterati d' Italia,' published at Venice in the year 1711. In France, Marius, a manufacturer of musical instruments in Paris, made (according to M. Fétis) in the year 1716, three models of a *clavecin à maillets*, in which the strings were vibrated by being struck with hammers. As regards the claim of England to be the country which produced the first pianoforte, a certain Father Wood, an English monk at Rome, is recorded to have possessed in the beginning of the eighteenth century a spinet constructed with hammers instead of quills; but as it is likewise recorded that he brought it to England from Italy, it probably was made after Bartolomeo Cristofali's device. It is, however, quite possible that the adoption of hammers suggested itself at the same time to different persons independently, when, in consequence of the progress which instrumental music

had made, the want of power of ſound in the clavichord, and the inefficiency of the harpſichord for yielding *piano* and *forte* by the touch, became more generally felt.

Whatever may be thought of the apparently conflicting evidence recorded as to the real inventor of the pianoforte, thus much is certain: C. G. Schröter's model was adopted by his compatriot, the famous maker, Gottfried Silbermann, who improved upon it, and thus Schröter's model conſtituted the foundation of the mechaniſm which has been gradually more and more perfected in England and France as well as in Germany. Schröter ſtates, in a publiſhed account of his invention, that the employment of hammers firſt ſuggeſted itſelf to him when witneſſing Pantaleon Hebenſtreit's wonderful execution on the dulcimer. This dulcimer was a ſuperior inſtrument of its kind. Pantaleon Hebenſtreit had it expreſſly conſtructed according to his plan. The common German dulcimer was at that time of a trapezium ſhape, about two feet in width in front and four feet in length; that of Pantaleon Hebenſtreit was of double the ſize, and had two ſound-boards oppoſite to each other, one of which was mounted with wire and the other with cutgut covered with wire. Having attained an aſtounding dexterity in performing upon his inſtrument, he went, in 1705, to Paris, and played before King Louis XIV. The King was ſo greatly pleaſed with the performance that he gave the inſtrument Hebenſtreit's Chriſtian name, *Pantaleon;* and by this name it became known in Germany. The fact that the pianoforte was alſo at firſt called *pantaleon*, or *pantalon*, corroborates the ſtatement of Schröter that the application of hammers to the clavicembalo occurred to him when he heard Hebenſtreit, hammering upon the *pantaleon*, produce charming effects by ſtriking with different degrees of force.

Thus a ſecond time the dulcimer ſerved a ſpeculative mind as a guide to the invention of a ſuperior inſtrument with a key-board. The firſt inſtrument with a key-board derived from the dulcimer was the clavicembalo,—or a dulcimer (*cimbal*) with keys (*claves*) and *plectra*.

A long time elapſed after the invention of the pianoforte before the inſtrument gained a footing in England. This is perhaps not ſurpriſing, conſidering the high degree of perfection which the harpſichord had attained. Beſides, the favourite compoſitions written for the harpſichord were not exactly adapted for the new inſtrument. An old play-bill ſtill extant, of the Theatre Royal in Covent Garden, announcing that on the 16th of May 1767, after the firſt act of the Beggar's Opera, "Miſs Brickler will ſing a favourite Song from 'Judith,' accompanied by Mr. Dibdin on a new inſtrument called Piano-Forte," clearly ſhows that in 1767 the pianoforte was ſtill but little known in London. In fact, it was not until towards the end of the eighteenth century, when

Clementi, and other diſtinguiſhed pianiſts and compoſers of muſic expreſſly calculated for the "new inſtrument," diſplayed its effects, that the pianoforte became an eſtabliſhed favourite with the public.

The moſt noteworthy pianofortes in the Exhibition were the following:—

A ſmall ſquare pianoforte by Johannes Pohlman, London, 1767, lent by the Marqueſs of Exeter. This is one of the earlieſt ſpecimens made in England. The compoſer Gluck had a pianoforte by J. Pohlman, dating from the year 1772, which he uſed in writing his opera 'Armida.'

A ſmall ſquare pianoforte by Zumpe and Mayer, London, 1776, lent by Mr. C. K. Salaman. The inſtrument has a lute ſtop and a vibration ſtop.

A ſmall ſquare pianoforte with the inſcription *Meincke Meyer et Pieter Meyer fecerunt*, *Amſterdam*, but ſuppoſed to have been made by Longman and Broderip in London, towards the end of the eighteenth century. Longman and Broderip not unfrequently manufactured pianofortes by order of Dutch dealers, who removed the original ſlip of wood above the key-board containing the names of the makers, and replaced it by one bearing their own name.

Madame Erard of Paris exhibited an early French ſquare pianoforte, which was made by Sébaſtian Erard for Queen Marie Antoinette.

Her Majeſty Queen Victoria contributed a fine ſquare pianoforte of the eighteenth century, and alſo a grand piano by Erard, which, though of modern conſtruction, was intereſting from an antiquarian point of view, on account of its decorations, the caſe being embelliſhed with old French paintings on a ground of gold.

CLASS II.

Stringed Instruments Played with a Bow.

This claſs compriſed above 150 inſtruments, including the largeſt aſſemblage of ſpecimens of the old Cremona maſters which perhaps has ever been brought together.

The predeceſſors of our preſent inſtruments played with a bow,—the treble viol, viola da gamba, &c.,—were provided with frets on the finger-board, like the lute, and had generally ſix ſtrings. The body was uſually made ſlanting towards the neck, and the back was flat.

The boat-ſhaped form of the *ſordino* reſembles the ancient rebec. Some of the *ſordini* exhibited were remarkably pretty, eſpecially thoſe

lent by M. Jubinal, of Paris, which are made of tortoiſe-ſhell and ivory, with a finely-carved head. Theſe little inſtruments are kept in their old caſes, ſomewhat reſembling a pen-caſe, which are taſtefully ornamented with *fleurs-de-lys*, &c.

Mr. J. Talbot, Cordier Hill, Guernſey, exhibited an Italian *ſordino* made by Matthias Albanus, 1680. Another Italian *ſordino* of the ſeventeenth century, lent by Mr. C. J. Read, Saliſbury, meaſures only ſixteen inches in length. The Italians uſed to call the *ſordino* alſo *rebecchino*, and *violino picciola a la franceſe*. The laſt-named appellation rather indicates that the inſtrument was regarded in Italy as particularly national to the French. But, although it may have been introduced into Italy from France, it moſt likely was derived originally from the Moors in Spain. It is now alſo often called *pochette*, or *kit;* but theſe names more uſually deſignate a diminutive violin, of which there were alſo ſome intereſting ſpecimens exhibited, as, for inſtance: *Pochette*, made by N. Remy, of Paris, eighteenth century, lent by Mr. C. J. Read; *Pochette*, ebony and ivory, with carved head, lent by M. Jubinal; *Kit*, lent by Mr. J. Gordon Smith; &c.

A curious ſpecimen of a violin of an old type, not much larger than a *pochette*, was exhibited by Mr. George H. M. Muntz, Birchfield, Birmingham. The inſtrument may be conſidered as illuſtrating the tranſition of the rebec into the violin. It was made by Pietro Zanure in Breſcia in the year 1509. Its ſides are ſlightly incurved, and it is mounted with four ſtrings; but it has only a ſingle ſound-hole, which is of a circular form, and is placed in the centre, as on the lute or guitar. It has a ſound-poſt, but no baſs-bar, and its tone is deſcribed by its owner as reſembling that of the oboe. A rather unſightly adjunct attached to the end is probably a comparatively modern addition, deſigned to enable the performer to hold the inſtrument with greater eaſe, as the violin is held.

Among the antiquated viols exhibited deſerve to be noticed—An Italian *violetta piccola;* a French *par-deſſus;* a French *quinton;* an Engliſh Treble viol, Counter-tenor viol, and Tenor viol.

The *viola d'amore* was repreſented by about half a dozen ſpecimens, including one lent by Mr. Joſeph Lidel, which was made in the year 1719, and which formerly belonged to the Prince-Biſhop of Salzburg, whoſe coat of arms is gilded on the front. The back of this inſtrument is carved out of a ſolid piece of wood.

A *viola d'amore*, made about the year 1660, probably Italian, which was exhibited by Profeſſor Oakeley, is noteworthy inaſmuch as it is without the uſual ſympathetic wire ſtrings. It has, however, the uſual ſeven cat-gut ſtrings, and the carved head of Amor which characterize

the *viola d'amore*. It may be remarked here that there are alſo ſpecimens extant which have only five cat-gut ſtrings, with eight wire ſtrings under them. Some ſuch inſtruments of a yellowiſh colour were made by Jakob Rauch in Manheim during the firſt half of the eighteenth century.

A fine ſpecimen of the cither-viol (*pſaltery*), but out of repair, was exhibited by the Marqueſs of Exeter. It is probably of Engliſh manufacture, dating from about the middle of the eighteenth century.

Beſides the fine *viola da gambas* belonging to the Muſeum, there were in the Exhibition ſome Engliſh ones by Barak Norman. One of theſe is dated 1696. Another, with the inſcription *Barak Norman, at the Baſe Viol in Saint Paul's Alley, London, fecit* 1690, has ſome fine carving upon it; but, unfortunately, it is no longer in its original condition, it having been altered to be uſed as a violoncello. A ſmall ſpecimen of the *viola da gamba*, exhibited by Lord G. Fitzgerald, was probably made in England during the ſecond half of the ſeventeenth century.

It is ſeldom that one meets with a ſeven-ſtringed *viola da gamba*. There were, however, two ſpecimens of it in the Exhibition, one of which, a remarkably fine inſtrument, of Italian workmanſhip, with a well-carved head, was lent by M. Gallay, of Paris. Unhappily, an attempt had been made by a modern hand to improve it by adding ſympathetic wire ſtrings.

The *viola da gamba* was made occaſionally with fewer ſtrings than ſix. Four-ſtringed ones met with at the preſent day are almoſt invariably altered ſix-ſtringed ones, on which the neck has been narrowed and the head ſhortened, ſo that the inſtrument may be uſed as a ſmall violoncello. An Engliſh *viola da gamba* with only four ſtrings, which evidently has never been tampered with, and which is in a well-preſerved condition, bears the inſcription *John Baker, Oxon*, 1688. In the four-ſtringed *viola da gamba* the invention of the violoncello appears to be anticipated; the ſix-ſtringed one, however, beſt exhibits the characteriſtic features of the immediate predeceſſor of the violoncello. Not ſo powerful as its offspring, and therefore leſs ſuited for our preſent orcheſtra, it is really a charming inſtrument for ſolo performance in a private room. A good player can, ſo to ſay, ſing upon it, and the arrangement of its ſtrings and frets facilitates the execution of ſucceſſions of chords. In fact, harmonious combinations are of frequent occurrence in the compoſitions which our anceſtors wrote for the *viola da gamba*.

The *viola di bardone* may be regarded as a large *viola d'amore*. There were two fine ſpecimens of this ſcarce inſtrument in the Exhibition; they belong to the Muſeum, and are deſcribed in the preſent Catalogue.

Furthermore, the Welſh *crwth* was repreſented by a ſpecimen lent by Mr. C. Wynne Finch.

We now proceed to thoſe inſtruments played with a bow which are at the preſent day in practical uſe. They muſt be ſeen and heard to be properly appreciated. However, a notice of ſuch as moſt deſerved the attention of the viſitors will aſſiſt the reader in forming a correct opinion of the excellence of a collection compriſing a large number of violins, violas, and violoncellos of famous Italian makers.

Violins.

A Gaſpard Duiffoprugcar, 1512, lent by Signor Francalucci ; there may be a doubt whether this violin is really of the maker to whom it is aſſigned, but it certainly is an excellent inſtrument of the earlieſt period.

A Nicholas Amati, lent by M. Gallay, of Paris ; a very fine violin.

An Antonius and Hieronymus Amati, 1628, lent by Mr. C. J. Read, Saliſbury ; large pattern, amber varniſh ; a fine ſpecimen.

An Antonius Stradiuarius, 1734, lent by Mr. W. A. Tyſſen Amhurſt, Didlington Hall, Norfolk.

A Stradiuarius, about 1690, lent by M. Georges Chanot, London.

A Stradiuarius, 1723, lent by H.R.H. the Duke of Cambridge ; purchaſed by H.R.H. the late Duke of Cambridge from Count Platen, of Hanover, who had bought it from Stradiuarius ; grand pattern.

A Stradiuarius, 1732, lent by Mr. John H. Arkwright, Hampton Court, Leominſter ; a ſpecimen of the grand pattern ; purchaſed from Signor Piatti for 200*l.* ; from the Caſtelbani collection in Naples.

A Stradiuarius, 1686, lent by the Rev. Henry Cooper Key, Stretton Rectory, Hereford ; reſembling the Amati model.

A Stradiuarius, 1725, lent by M. Eugene Lecomte, Paris ; grand pattern ; remarkably fine.

A Stradiuarius, 1712, lent by Mr. Andrew Fountaine, Merton Hall, near Norwich. This ſmall violin, made for a child's uſe, is a very characteriſtic ſpecimen of the maker's beſt period.

A Stradiuarius, 1709, named "La Pucelle," the property of M. Glandaz, lent through M. Vuillaume, of Paris ; a very fine inſtrument ; ſplendid varniſh.

A Stradiuarius, 1716, named "Le Meſſie," lent by M. Vuillaume. This beautiful violin, of its maker's beſt period, is in an admirably well-preſerved condition. Its owner, M. Jean Baptiſte Vuillaume, the celebrated violin maker, points out that it has ſcarcely been played upon at all, and that it is in preciſely the ſame condition in which it paſſed from the hands of Antonius Stradiuarius, more than a century and a half ago. He adds that the excellent quality of ſound of this

inſtrument refutes the prevailing notion that the ſuperiority of tone of the old Italian violins is in great meaſure owing to their having been for many years in conſtant uſe. This violin was bought, in the year 1760, by Le Comte Cozio de Salabue, after whoſe deceaſe it was ſold to Luigi Tariſio, a great connoiſſeur and collector of old violins. Tariſio kept it in his poſſeſſion, as a precious treaſure, until his death in the year 1854. It is ſaid that he could rarely be prevailed upon to ſhow it to anyone, for fear that he might by tempted to ſell it. M. Vuillaume recently declined an offer of 600*l.* for this violin.

A Stradiuarius, lent by Mr. John Hart, London; very fine.

A Joſeph Guarnerius, 1734, named "Violin du Diable," becauſe it was played by M. Saint Leon in Paris with much effect in an opera of that name. This very fine violin is the property of Madame Fleury, who lent it through M. Vuillaume.

A Joſeph Guarnerius, 1735, lent by M. Louis d'Egville, London.

A Joſeph Guarnerius, 1734, lent by Mr. W. A. Tyſſen Amhurſt.

A Joſeph Guarnerius, made for a child at the beſt period of the maker; lent by Mr. Andrew Fountaine.

A Joſeph, ſon of A. Guarnerius, 1684, lent by H.R.H. the Duke of Edinburgh; given to H.R.H. the Duke of Edinburgh by the late Baron Goldſchmidt.

A Ruggeri, 1704, lent by M. Gallay.

A Carlo Bergonzi, 1727, lent by Mr. J. Hart.

A Maggini, lent by Mr. J. H. Arkwright; handſome double purfling, ornamented back; purchaſed from Mr. Blagrove for 50*l.*

A Jacobus Stainer, 1695; ſmall, with a lion's head carved on the ſcroll; lent by H.R.H. the Duke of Edinburgh. Formerly the property of the late Duke of Cambridge, and given to H.R.H. the Duke of Edinburgh by H.R.H. the Duke of Cambridge.

Paſſing over ſeveral extravagances,—ſuch as a violin of ſilver, made at Cawnpore, Eaſt India, in the year 1781, and until recently in Signor Mario's muſeum at Florence; an old violin, the ſhape of which is peculiar, being flat, without ſides; a highly intereſting violin, which is ſaid to have been given by Queen Elizabeth to the Earl of Leiceſter, and which is deſcribed in the preſent Catalogue (page 287),—we now proceed to the

Violas.

A Joan Karlino, Breſcia, ſaid to be of the year 1452, lent by M. G. Chanot.

A Linaro, Venice, 1563, lent by Signor Francalucci.

An Amati, lent by Her Majeſty the Queen; reduced from a viol. With paintings on the back: to the left a figure of St. John the Baptiſt,

with the lamb; in the centre a coat of arms; to the right another figure, nearly obliterated by uſe. Inſcription round the ſides: *Ecce Agnus Dei, Guilia Maria Bernardi.* This inſtrument, like ſeveral other noble violas exhibited, has, unfortunately, been cut down at the ſides, to render it more convenient for modern uſe.

A Nicholas Amati, 1620, lent by Mr. Willet L. Adye, Packpool Houſe, Ryde. Painting on the back. Purchaſed in Venice in the year 1793, from the noble ſamily of Radetti. Its dimenſions were reduced in 1811, for General Kidd, by J. Dodds, St. Martin's Lane.

An Amati, lent by Mr. J. Hart; fine, but has been reduced.

A Montagnana, Venice, about 1738, lent by Madame Riſler.

A Jacobus Stainer, 1660, lent by Signor Piatti; as fine a ſpecimen as poſſible of its maker's work. It was purchaſed at the ſale of the Count Cæſar de Caſtelbarco.

H.R.H. the Duke of Edinburgh exhibited a viola ſaid to have belonged to Handel, and bought in New Zealand. Conſidering that Handel played for ſome years a ſecond fiddle in the orcheſtra of the Opera Houſe at Hamburg, it appears not at all improbable that he kept in his poſſeſſion an inſtrument or two of the violin kind; and conſidering likewiſe that in European countries no ſtone has been left unturned in ranſacking for valuable old fiddles, it may poſſibly be that there is a better chance of hunting for them ſucceſsfully in New Zealand than at home.

Violoncellos.

An Andreas Amati, 1572; lent by the Rev. Alex. H. Bridges, Beddington Houſe, near Croydon, Surrey; fine purfling; painted at back and ſides.

An Antonius and Hieronymus Amati, 1615; lent by the Rev. John Blow, Goodmanham, Market-Weighton, Yorkſhire.

A Sanctus Seraphino, Venice, about 1730; lent by Mr. H. B. Heath, London; one of the fineſt ſpecimens of this maker known.

A David Techler, Venice, about 1700; lent by Mr. Thomas Faulconer; very fine.

A Joſeph, ſon of Andreas, Guarnerius, 1702; lent by H.R.H. the Duke of Edinburgh, by whom it was bought in New Zealand.

An Antonius Stradiuarius, 1730; lent by Mr. Frederick Pawle, Northhoole, Reigate; a magnificent ſpecimen.

An Antonius Stradiuarius, 1725; lent by M. Gallay, Paris; a magnificent ſpecimen. The viciſſitudes which this violoncello has experienced are, if rumour may be truſted, rather extraordinary. M. G. Chanot,

ſenior, violin-maker in Paris, during an excurſion to Spain, happened to ſee the belly of this baſs hanging up with other odds and ends in the ſhop window of Ortega, a fiddle mender in Madrid. Chanot, who at a glance appreciated its value, went in and bought it for about forty francs. Having ſecured the precious fragment, he aſked Ortega where it came from. Ortega replied that he took it from an old violoncello which a lady of rank reſiding in the neighbourhood of Madrid had ſent to him to be repaired. As there were ſo many cracks in the belly, he had ſubſtituted for it a nice new one of his own making. Chanot carried the belly away with him to Paris and placed it among the treaſures in his ſhop. There it was ſeen, ſome time after, by Luigi Tariſio, the enthuſiaſtic Italian collector before mentioned, who was charmed with it, and bought it from Chanot for a thouſand francs. Having aſcertained that the violoncello to which this fragment originally belonged was in the poſſeſſion of a lady living near Madrid, Tariſio at once ſet out to Spain. Arrived at Madrid, he called firſt upon Ortega to learn the exact addreſs of the lady, and how beſt to proceed. Now, the lady, when ſhe became aware that a gentleman had travelled a long way to look after her old baſs with a view of purchaſing it, thought, of courſe, that it muſt be worth a great deal of money, and therefore ſaid that ſhe had no wiſh to ſell it; ſhe would, however, give it to him for four thouſand francs. Tariſio was only too glad to pay the ſum; and having ſecured the baſs, he carried it triumphantly to Paris. The firſt thing he did was to have the new belly removed and the old cracked one reinſtated. After its reſtoration M. Gallay bought the inſtrument for 20,000 francs (800*l.*).

Double Baſſes.

Among the double baſſes in the Exhibition deſerving ſpecial mention, were:—

A *Baſſo di Camera*, lent by Her Majeſty the Queen. Suppoſed to be by Domenico Montagnana of Venice, about 1725; bequeathed to H.R.H. the Prince Conſort by Signor Dragonetti; very fine.

A Gaſpar di Salo, Breſcia, 1580; lent by the Rev. G. Leigh Blake, Buriton, Petersfield; a fine ſpecimen, formerly the property of Signor Dragonetti.

A Gaſpar di Salo, 1590, lent by Mr. John Hart; a ſmall baſs in a good ſtate of preſervation.

Two double baſſes aſſigned to Gaſpar di Salo, probably by Maggini; lent by Mrs. Salomons, London; formerly belonging to Signor Dragonetti.

A double baſs aſſigned to Gaſpar di Salo, probably by Maggini, lent by the Duke of Leinſter.

A huge double baſs, given to the Muſeum by the Duke of Leinſter; &c.

The Exhibition alſo contained ſeveral beautiful violin bows by Tourte and other celebrated bow makers. Likewiſe ſome taſtefully-ſhaped and ornamented caſes, originally made for the old inſtruments to which they belong.

As regards the old Engliſh violins, tenors, and violoncellos, thoſe by Benjamin Banks, Edmund Aireton, Richard Duke, William Forſter, and other makers of the eighteenth century, were ſufficiently repreſented; likewiſe the gambas by Barak Norman, dating from the ſeventeenth century. There are, however, ſeveral other Engliſh makers, formerly much eſteemed, of whoſe manufacture ſome well-preſerved inſtruments may be ſtill in exiſtence, as, for inſtance:—Thomas Urquhart, ſeventeenth century; Edward Pamphilon, ſeventeenth century; Daniel Parker, beginning of eighteenth century, &c. Thomas Mace, in his 'Muſick's Monument,' London, 1676, ſays that "of viols and baſſes there are no better in the world than thoſe of Aldred, Jay, and Smith; yet the higheſt in eſteem are Bolles and Roſs. One baſs by Bolles I have known valued at 100*l.*" And he adds, "Theſe were old, but we have now very excellent good workmen, who, no doubt, can work as well as thoſe, if they be ſo well paid for their work as they were." Alſo the manufacture of lutes, theorbos, and cithers was, about two centuries ago, aſſiduouſly carried on in England. This is well known to muſical antiquarians; but the ſuperiority of the Italian inſtruments has ſomewhat obſcured the indigenous ones. Would it not be adviſable to ſave as a memorial at leaſt one or two ſpecimens of each antiquated kind of Engliſh workmanſhip and art formerly popular in the Britiſh Iſles?

CLASS III.

Harps, Lutes, Guitars, Cithers, Dulcimers, &c.

On ſome of the inſtruments included in this claſs the ſound is produced by twanging the ſtrings with the fingers:—*harp*, *lute*, *theorbo*, *guitar*, &c.; on others, by twanging the ſtrings with a quill, or other kind of plectrum:—*cither*, *mandoline*, &c.; and again on others, by ſtriking the ſtrings with little hammers:—*dulcimer*, &c.

Among the harps exhibited were ſome French ones taſtefully ornamented, dating from the ſeventeenth and eighteenth centuries.

Lady Llanover exhibited a Welſh triple harp, which is ſtill in the Muſeum. (See above, page 291.)

Of the Iriſh harp, ſtrung with wire inſtead of catgut, an intereſting ſpecimen, made anno 1671, was exhibited by the Marqueſs of Kildare, Carton, Maynooth; and another, by Archdeacon Saurin, Segoe, Portadown. The latter has ſubſequently been preſented to the Muſeum. (See above, page 240.)

A valuable wreck of an old Iriſh harp, dating from the year 1621, was lent by Robert Marriott Dalway, Eſq., M.P., Bella Hill, Carrickfergus, Ireland. Only two pieces are remaining, the ſound-board being loſt. The one piece called the Harmonic Curve is of yew, and the carving upon it is very fine. The bow, or fore-bar, is probably of ſallow, and is nicely carved. This harp is ſuppoſed to have had fifty-two ſtrings. A notice of it will be found in Bunting's Collection of the Ancient Muſic of Ireland, vol. i., London, 1809. Bunting remarks, "The inſtrument, in truth, deſerves the epithet claimed by the inſcription on itſelf, *Ego ſum Regina Cithararum.*" He cites the inſcriptions which are in the Iriſh language, and ſuggeſts that many more were probably contained on the ſound-board. As to the purport of the inſcriptions, he ſays, "Every part of the remaining fragments is covered with inſcriptions in Latin and in the Iriſh character; the former containing mottoes and the name of the maker [Donatus Filius Thadei]; the latter, the year in which it was made [A.D. 1621] and the ſervants' names of the houſehold, &c. According to an old cuſtom, the inſtrument is ſuppoſed to be animated; and, among other matters, it informs us of the names of the two harpers who had produced the fineſt muſic on it. Theſe were, it ſeems, Giolla Patrick M'Credan, and Diarmad M'Credan."

The Iriſh and Scotch harpers twanged the ſtrings of their harps, which were of braſs, with their nails. They allowed their nails to grow, for the purpoſe, to a conſiderable length, and they trimmed them, making them ſomewhat pointed, like the quills of the harpſichord.

There were two bell-harps in the Exhibition, one of which is ſtill in the Muſeum, and is deſcribed in the preſent Catalogue.

A *harpanetta* (*arpanetta*, *arpa doppia*) was lent by M. Céſar Snoeck of Renaix, Belgium. Two centuries ago, and earlier, popular on the continent, the *harpanetta* has now become quite antiquated. In Germany it is called *Spitzharfe* (from *ſpitz*, "pointed,") becauſe it is pointed at the top; and alſo *Davidſharfe*, from an unauthenticated notion that it is the ſpecies of harp upon which King David played. It might rather be claſſed with the dulcimer. It has two ſound-boards, —one ſtrung with thin ſteel wire, and the other with braſs wire. When

played it is placed vertically on a table, ſo that the ſound-board containing the ſteel wire ſtrings, which yield the higher tones, is to the right of the player, and the ſound-board containing the braſs ſtrings, which yield the deeper tones, is to the left. The performer uſed to twang the ſtrings with his nails or with ſilver thimbles having a little point at the end, which he put on his finger-ends. The *harpanetta* was generally of ſmall dimenſions, being about three feet in height, but it was mounted with a great number of ſtrings, which were arranged in groups of two or three tuned in uniſon. Its compaſs embraced about four octaves, and its quality of ſound ſomewhat reſembled that of the old cither. M. Céſar Snoeck's ſpecimen being unſtrung, its muſical qualifications could not be aſcertained.

The *lute* was not ſo well repreſented as its offſpring the *theorbo*. There were, however, ſome fine ſpecimens of Italian workmanſhip. Towards the end of the ſeventeenth century the lute appears to have come to be regarded as ſomewhat out of faſhion in England. At any rate, Thomas Mace, in his 'Muſick's Monument,' London, 1676, prefaces his Inſtructions in Lute-playing with a dialogue written in doggerel verſe, in which the lute complains of being neglected, becauſe—

> "The world is grown ſo ſlight; full of new fangles,
> And takes their chief delight in ſingle-fangles,
> With fiddle-noiſes, pipes of Bartholmew."

It is, therefore, perhaps not ſo ſurpriſing as it may have appeared to ſome viſitors, that there was only one Engliſh lute in the Exhibition. Beſides, it is an inſtrument of too delicate conſtruction long to withſtand the tooth of time.

It would take more ſpace than can here be afforded to ſpecify the handſome guitars, mandolines, and pandurinas which were exhibited.

The Marquis of Exeter lent a *cither*, very old-faſhioned in ſhape, which was probably made in London about the year 1700. Another cither, with the inſcription *Remerus Lieſſem, London*, 1756, may be noticed as affording evidence of the old-faſhioned ſhape having been occaſionally adopted by Engliſh makers even as late as the middle of the eighteenth century. The body has ſeveral incurvations at the ſides. Athanaſius Kircher, in his 'Muſurgia,' Rome, 1650, gives an illuſtration of a ſimilarly-ſhaped cither, which he calls the common cither. The Engliſh Orpheoron, or Orpharion, and the Penorcon alſo had incurvations like thoſe of the inſtrument in queſtion.

Sir Digby Wyatt lent an Engliſh Keyed-cither, on which ſix keys are placed in a little box above the ſtrings, and the hammers ſtrike the ſtrings from above; and Profeſſor Oakeley, Edinburgh Univerſity, lent

another Engliſh Keyed-cither, on which ſix keys are placed by the ſide of the ſtrings, and are connected with a mechaniſm inſide the inſtrument, which cauſes the hammers to ſtrike the ſtrings from below through the ſound-hole. The idea of applying keys, like thoſe of the pianoforte, to the cither, and thus ſtriking the ſtrings with hammers inſtead of twanging them with a quill, originated in Germany. Various patents were taken out in London by German and Engliſh manufacturers re-relating to this invention, which, however, proved to be of but little practical advantage.

A *cetera*, or Italian cither, probably of the ſeventeenth century, lent by M. Céſar Snoeck, deſerves ſpecial mention. This intereſting inſtrument is of the kind with which the Improviſatori uſed to accompany their effuſions. The top terminates in a finely-carved figure, and the body is flattened towards the end. It is mounted with twelve wire ſtrings, which are placed in pairs, and produce ſix tones. The taſtefully-carved little tuning-pegs are inſerted in a ſomewhat oblique poſition above the top of the finger-board.

Another *cetera* was lent by M. Vuillaume, who deſcribes it as being the work of Antonius Stradiuarius, dating from the year 1700, and a label in the inſide aſſigns it to that maker. The carving of the head, repreſenting Diana, is very fine, and the inſtrument is in excellent condition.

It may be remarked here that the French term *ciſtre* or *ſiſtre* does not deſignate the cetera excluſively, but is applied to any cither.

A ſingular evidence of the popularity of the cither, or ciſtre, on the continent, at a remote period, is preſerved in the family name of Ciſterman, deſignating a performer on this inſtrument, or perhaps a cither maker. No doubt, the ſame occupation being often carried on in a family through ſeveral generations, the family derived its name from the occupation which it was known to purſue. Thus we find in Germany the names Pfeifer (a piper), Wedeler (a fiddler), Ludeman (a luteniſt, or perhaps a lute maker), Hornemann (a horn-blower) ; and in England, Piper, Harper, Chalmer (player on the ſhalm), Crowther (player on the crwth or crowd), and others. Edmond Vander Straeten, in his publication of the old documents relating to the muſic of the Netherlands, entitled 'La Muſique aux Pays-Bas avant le XIXe Siècle,' Bruſſels, 1867, mentions ſome old family names of this kind found in Belgium and Holland, as, for inſtance, Ciſterman, Vander Luute, De Vedelaere (fiddler), De Harpeneer, Sacqueboute (trombone-player), Akar (nakar-player, drummer).

There remains to be recorded a fine diſplay of Italian dulcimers incorporated in the preſent claſs. Suffice it here to draw attention to

the taſteful carving, gilding, and painting on ſome of them. They are of the ſeventeenth and eighteenth centuries.

In England the dulcimer had already fallen into neglect in the beginning of the eighteenth century. James Graſſineau, in his 'Muſical Dictionary,' London, 1740, remarks that "it is not much uſed except among puppet-ſhows." Still, its tone is ſweet, and really charming, if the player underſtands how properly to uſe the ſoft-leathered and hard-leathered ends of the hammers. But it is too ſimple an inſtrument for the performance of elaborate compoſitions.

CLASS IV.

Trumpets, Horns, and similar Wind Instruments.

Inſtruments of the trumpet kind,—uſed not only in muſical performances, but alſo for conveying ſignals in war, or in the chaſe, or for directing gangs of labourers at their work, or for ſimilar purpoſes,—are to be found in almoſt every part of the world, and are of great variety. True, many of them may be called horns, if only ſuch inſtruments of this kind deſerve to be regarded as trumpets the tube of which does not increaſe in thickneſs, or but ſlightly ſo, in its whole length. The aperture, however, generally terminates in ſome ſort of expanſion, called the bell. But, in a wider ſenſe, all the inſtruments in queſtion may be ſaid to belong to the trumpet family.

Colonel A. Lane Fox lent a bronze trumpet, which was found with four others, two of which have ſide-holes, in Drumabeſt Bog, pariſh of Kilraughts, county Antrim, Ireland, in the year 1840. The dimenſions of this trumpet, which is figured in the 'Ulſter Journal of Archæology,' are :—Length of curve, 2 ft. 11 in. ; diſtance from point to point, 1 ft. 11$\frac{3}{4}$ in. ; diameter at large end, 2$\frac{1}{2}$ in. ; diameter at ſmall end, 1$\frac{1}{3}$ in. ; diameter of ring, 1$\frac{1}{2}$ in. Colonel A. Lane Fox alſo lent a portion of a bronze trumpet which was found in draining at Kanturk, county Cork, Ireland. Mr. John Davidſon lent a bronze trumpet, ſaid to have been dug up near Antrim, in Ireland, which meaſures above five feet in length, and is probably a Daniſh *lure* of the eighth or ninth century. The Royal Muſeum of Northern Antiquities at Copenhagen poſſeſſes ſeveral ancient Scandinavian trumpets of this ſhape, above ſix feet in length. The ſerpentine winding given to the tube enabled the trumpeter to carry the inſtrument by holding it under his left arm and acroſs his back, ſo that the bell, which he held with his right hand, was turned towards his right hip. The Muſeum at Copenhagen contains ſome old trumpets made of gold. One of

thefe was found, in the year 1639, at Tondern in Slefvig, by a young peafant girl, who one evening on her way home remarked it fticking up out of the ground by the road-fide. Bronze trumpets of mediæval time, excavated from bogs or moffes in Ireland, are preferved in the Royal Irifh Academy at Dublin.

Prince Charles of Hohenzollern-Sigmaringen lent five old German trumpets, fo noble and martial looking that even the fight of them is invigorating. They date from the feventeenth century. Two of them were made by Johann Leonard Ehe in Nürnberg; one by Hieronymus Stark, in Nürnberg, anno 1669; another by Chriftopher Frank; and another by Magnus Wolf. Prince Charles of Hohenzollern-Sigmaringen alfo lent a German *Waldhorn*, or *Jagdhorn* (Italian, *Corno da caccia;* French, *Cor de Chaffe*), made in the year 1688, by Wilhelm Haas, a maker whofe trumpets, which were ufually ornamented with angels' heads, had a high reputation in Germany during the eighteenth century. The town of Nürnberg was diftinguifhed for its makers of brafs inftruments as well as for its makers of lutes and viols. Schnitzer in Nürnberg, towards the end of the fixteenth century, manufactured trumpets inlaid with filver and gold, which were purchafed by the German princes and high ecclefiaftics. Still earlier, about the year 1520, Hans Meufchel in Nürnberg, made fine trombones, faid to have been entirely of filver, and his reputation extended as far as to Italy. Pope Leo X. fummoned him to Rome, commanded him to conftruct fome trombones of filver, and rewarded him handfomely. The employment of filver in the conftruction of fuch inftruments was, however, not new. The municipality of the city of Ghent, in Belgium, poffeffes filver trumpets which date from the fifteenth century. Moreover, long before our Chriftian era, the eaftern nations appear to have conftructed trumpets of this precious metal. Mofes made, according to Numb. x. 2, two trumpets of filver "of a whole piece."

During the eighteenth century the tube of the German military trumpet generally meafured eight feet in length. The French trumpet was fmaller, and its pitch was a minor-third higher than the German. Still fmaller was the fhort Englifh trumpet, called *tromba piccola*, the pitch of which was a fourth higher than that of the German trumpet.

A fine trumpet, probably of Englifh workmanfhip, about the year 1700, was exhibited by Mr. Thomas Harper, who, in a note forwarded with it, remarks: "The length of the tube is 85 inches, being 16 inches longer than the trumpet of the prefent time,—fuggeftive of the rife in the pitch."

Her Majefty the Queen lent two German Bugle-horns, made at Hanover, about the year 1800. Alfo two filver trumpets with banners

bearing the royal arms attached to them. Theſe State trumpets are from St. James's Palace. One of them, evidently made in the reign of George III., has the inſcription of the maker's name, *William Shaw, Red Lion Street, Holborn*, engraven on it. In the year 1824, John Shaw, moſt likely a ſon of William Shaw, took out a patent for "tranſverſe ſpring ſlides for trumpets, trombones, French horns, bugles, and every other inſtrument of the like nature."

During the 18th century the Court of the Elector of Saxony and ſome other German courts of the higheſt claſs, kept eight trumpeters and a kettle-drummer, while the ſmaller courts reſtricted themſelves to four trumpeters and a kettle-drummer. The principal duties of theſe men were to meet the ambaſſadors coming to an audience; to carry the invitations to high perſons to dine with the Sovereign; and to perform during the banquet. The King of Poland and Elector of Saxony, about the year 1700, had twelve trumpeters and two kettle-drummers for this purpoſe. So had alſo Queen Elizabeth. Paul Hentzner, a German who viſited the Engliſh Court in the year 1598, records in his journal that he went to the royal palace at Greenwich to ſee the Queen. On her dinner being brought in "twelve trumpets and two kettle-drums made the hall ring for half-an-hour together."

There requires to be put on record an aſſemblage of ſpecimens, varying in ſize, of the German (or perhaps Dutch) *zinken*, lent by M. Céſar Snoeck; and a pair of foreſters' horns, probably of the 18th century, lent by Mr. J. Gordon Smith, which are of hexagonal ſhape and have ſilver mountings figured with objects of the chaſe.

CLASS V.

Flutes, Oboes, and similar Wind Instruments.

The moſt intereſting flutes in the Exhibition were the following:—

A French flageolet, engraved iron, period of Louis XIII. (firſt half of 17th century); lent by M. Jubinal.—A flageolet, made by Holtzapfel in Paris, probably about 1790; ebony or ſtained wood, and ivory; a ſilver key; lent by Mr. G. F. Ducombe.—A flûte à bec of carved ivory, probably French, about 1600; lent by M. Jubinal.—An Engliſh flûte à bec (in F) of ivory and ſilver, made about the year 1700; lent by Mr. J. Gordon Smith.—An Engliſh flûte à bec (in B-flat) of ivory and ſilver, made by Staneſby, jun., 1740; lent by Mr. J. Gordon Smith.—An Engliſh recorder, 17th century. It cloſely reſembles the flute in the hands of the player, Fig. 104. Near the top, about an inch from the mouth-hole, is ſituated a hole covered with thin bladder, like

gold-beater's ſkin. The object of this contrivance was to render the ſound, by means of the vibration of the delicate film, more tender and ſomewhat reedy, like that of the oboe. This recorder is of black-ſtained wood. It has ſix finger-holes at the upper ſurface, one at the ſide towards the end, and one for the thumb oppoſite to the row of ſix. Length, 26 inches.—A flauto dolce, or an Italian flûte à bec, made by Anciuti in Milan, anno 1740. This fine inſtrument belongs to the Muſeum, and is deſcribed in the preſent Catalogue, p. 224.—A flûte traverſière, made of porcelain, ſaid to have belonged to King Charles II.; lent by Mr. Thomas Warner, Crumpſall Green, near Mancheſter. It has three centre pieces of different ſizes, by the change of which the pitch is altered.—Some German tenor flutes and baſs flutes; ſome double and triple flageolets, &c.

Of inſtruments which have a vibrating reed inſerted in the tube, the following may be recorded:—An Engliſh horn (*Oboe da caccia*, or *Cor Anglais*), made of red cedar, by Thomas Staneſby, jun., 1740; lent by Mr. J. Gordon Smith.—An Engliſh horn with two keys, made by T. Cottier, London; lent by Meſſrs. J. and R. Glen of Edinburgh.—A Welſh hornpipe lent by Mr. C. Wynne Finch. (See the engraving, Fig. 136.)—A Stock-horn or Scotch hornpipe, lent by Mr. J. Gordon Smith. This inſtrument, which is now very ſcarce, reſembles the *pibgorn* of the Welſh. Allan Ramſay in 'The Gentle Shepherd,' publiſhed in the year 1725, alludes to the Stock-horn:—

> "When I begin to tune my ſtock and horn,
> Wi' a' her face ſhe ſhaws a cauldrife ſcorn.
> Laſt night, I play'd,—ye never heard ſic ſpite!
> *O'er Bogie* was the ſpring and her delyte;—
> Yet tauntingly ſhe at her couſin ſpeer'd,
> 'Gif ſhe could tell what tune I play'd?' and ſneer'd.
> Flocks, wander where ye like, I dinna care,
> I'll break my reed, and never whiſtle mair!"

It muſt be admitted that, on the whole, the old ſhalm family was not ſufficiently repreſented. The muſical antiquarian would have liked to have ſeen ſome well-preſerved ſpecimens of the *bombardo* (German, *pommer*), the *cormorne* (German, *krummhorn*), the *dulcian*, a ſmall baſſoon, and ſeveral others.

Of the bagpipe there was a better diſplay, as may be ſeen from the following enumeration of noteworthy ſpecimens:—A ſmall Cumberland bagpipe, made about the year 1790; lignum-vitæ and ivory.—A Northumberland bagpipe, made about the year 1800; of ebony and ſilver, the chanter being of ivory "This inſtrument," its owner remarks,

" differs from other bagpipes inasmuch as it can be played perfectly in tune, and alſo in that the ſtopping is performed by lifting only one finger at a time,—a method known in Northumberland as cloſe-fingering." — A very old Border bagpipe, ſilver-mounted, lent by Meſſrs. J. and R. Glen of Edinburgh.—A Scotch highland bagpipe, bearing the date 1409; lent by Meſſrs. J. and R. Glen. It has two drones ſet in one ſtock, and is carved in the Celtic ſtyle.—Three French *muſettes* of the period of Louis XIV., with ivory tubes; lent by M. Jubinal.—A Calabrian bagpipe (*zampogna*) of the 18th century, rudely carved; lent by Meſſrs. J. and R. Glen.—An Iriſh bagpipe of ebony and ſilver.—A fragment of an ancient Engliſh bagpipe, conſiſting of a bone with ſeven finger-holes; and an ancient Chanter or Melody-pipe of unuſual form, with a double tube, and with curiouſly-arranged finger-holes; this chanter probably belonged to a Lincolnſhire or other extinct Engliſh bagpipe.

Colonel A. Lane Fox lent a ſmall whiſtle with a bladder attached to it, which was brought to England from the north-weſt coaſt of America. It is carried by the Indians under the arm, and preſſed to imitate the noiſe of a wild duck, which is thus decoyed. This ſpecies of bagpipe is curious as being the moſt primitive one in the Exhibition; but it is probably a comparatively modern contrivance of the American Indians. At the time of the diſcovery of America the Indians were, as far as is known, unacquainted with the bagpipe.

Profeſſor Oakeley lent a ſtucco caſt of the Peruvian *huayra-puhura*. (See Fig. 61.) Furthermore, the Exhibition contained a caſe with ſome pre-hiſtoric reindeer bones from the Cavernes du Perigord, which are ſuppoſed to have been uſed as whiſtles. (See Fig. 2.)

CLASS VI.

Organs, and other Instruments containing Organ Pipes, or Tongues of Metal.

This claſs contained only about a dozen inſtruments, moſt of which, however, were ſo intereſting as to deſerve mention here.

The Muſeum contributed a German chamber organ of the 16th century, of which a deſcription is given in the preſent Catalogue.

Mr. R. Wrench, Surbiton, lent an Engliſh chamber organ built by Bernhard Schmidt, or "Father Smith," as he was called in England. The inſtrument has ten ſtops. It probably dates from the year 1670.

J. Snowdon Henry, Eſq., M.P., Eaſt Dene, Bonchurch, lent a German chamber organ made by Hoffheimer in the year 1592. This

maker reſided perhaps in Salzburg. At any rate, a diſtinguiſhed organ player of the ſame name lived in Salzburg in the 16th century.

Mr. H. W. Jones lent an organ, ſaid to have belonged to Handel, ornamented with ſome fine carving ſaid to be by Grinling Gibbons.

Mr. C. A. Howell lent a German organ of the 17th century, inlaid with deſigns in various coloured woods.

Signor Caſtellani in Rome lent an Italian organ which bears the inſcription *Domenicus Antonionus Roſſi Neapolitanus Organarius fecit* 1763. This intereſting inſtrument was formerly in a chapel in the iſland of Iſchia.

The *regal*, or organ portative, was repreſented by a ſpecimen belonging to Mr. Wyndham S. Portal, Malſhanger, Baſingſtoke. The caſe of this little organ is in the ſhape of a book, and the pipes have reeds or vibrating tongues of metal. According to the ſtatement of its owner, it dates from the 15th century. However, Johann Gottfried Walther, in his 'Muſikaliſches Lexicon,' Leipzig, 1732, aſſigns the invention of the regal made in the ſhape of a book to Georg Voll, an organ-builder in Nürnberg, about the middle of the 16th century. Alſo Jakob Adlung, a very careful inquirer, aſcribes it to G. Voll. He ſays, "Such a regal exactly repreſents a book folio ſize, from eight to twelve inches in thickneſs. It is opened in the middle, like a book. The interior contains at each ſide the key-board, which muſt be taken out of the cover, and muſt be accurately adjuſted. Under the key-board are the wind-cheſt and the pipes, which are very ſmall. By reverſing the book-cover and attaching it to the end of the works, the bellows are obtained. The book meaſures about eighteen inches in breadth." This deſcription from Adlung's 'Muſica Mechanica Organoedi,' Berlin, 1768, accords on the whole with the preſent ſpecimen. The Germans called ſuch a regal *Bibelregal*, becauſe it was intended to repreſent a Bible in appearance.

The *claviorganum*, or organ-harpſichord, conſiſts of an organ and a harpſichord (or a ſpinet) combined. Either can be played ſeparately or with the other together. The ſeparation and the union are effected by means of a ſtop or a pedal. The claviorganum was, ſome centuries ago, not uncommon. It enables the performer to ſuſtain the ſound at pleaſure, which on the harpſichord is as little poſſible as on the pianoforte. A *claviorganum* exhibited by Mrs Luard Selby, the Mote, Tunbridge, Kent, affords evidence of a higher antiquity of inſtruments of this kind than might perhaps be expected. It bears the inſcription, *Lodowicos Threwes me fecit*, 1579. There is ſcarcely more remaining of this intereſting relic than the outer caſe; but this is ſo elaborately finiſhed that, if the mechaniſm was conſtructed with equal care and

ſucceſs, it muſt have been a ſuperior inſtrument. The maker is unknown in muſical hiſtory. Perhaps he belonged to the family of Treu (alſo written Trew), muſicians of repute in Anſpach about the year 1600.

An Engliſh *claviorganum*, which was lent by Mr. Ch. Pillow, of Chicheſter, bears the inſcription, *Crang*, *Londini*, *A.D.* 1745. Its length is nine feet and an inch. It has two key-boards. Compaſs, five octaves, with the omiſſion of the loweſt ſemitone f-ſharp. The harpſichord portion has a firſt uniſon ſtop, a ſecond uniſon ſtop, an octave ſtop, and a lute ſtop. The organ portion has ſix ſtops, viz., twelfth baſs, twelfth treble, principal baſs, principal treble, open diapaſon, ſtopt diapaſon. When exhibited, it was much out of repair, and not in a playable condition.

The old fancy of a combination of the organ with the clavicembalo, and alſo with the clavichord, reappears in modern time in the conſtruction of the *organ-piano*, and the *piano-harmonium*,—inſtruments which prove to be of but little practical uſe. The quality of ſound of the harmonium, as well as of the organ, is too characteriſtic and individual to blend effectively with that of the pianoforte.

An *organ-hurdygurdy*, and a handſomely-ornamented *ſerinette*, which were exhibited in this Claſs, are ſtill in the Muſeum, and are deſcribed in the preſent Catalogue.

CLASS VII.

Miscellaneous Instruments.

This claſs was made up by a heterogeneous aſſemblage of inſtruments, none of which would have been in its proper place in any of the preceding claſſes.

Here were exhibited the beautiful ſpecimens of the French hurdygurdy, or *vielle*, dating from the ſixteenth and ſeventeenth centuries, which belong to the Muſeum.

Profeſſor Oakeley, Edinburgh Univerſity, lent an old Engliſh hurdygurdy, and a curious old Engliſh tambourine (date unknown) with a number of bells attached to it.

Her Majeſty the Queen lent a German *Halbmond*, probably obtained from Hanover, about the year 1800. There are about twenty bells attached to it, and it is ſurmounted by a creſcent. The German *Halbmond* or *Schellenbaum* (French, *Pavillon chinois*), uſed in military bands, appears to have been originally borrowed from the Turkiſh Janiſſary muſic.

M. Jubinal of Paris lent a tambourine of the time of Louis XIII.; a pair of caſtanets of the time of Louis XIII.; five elegant conductor's batons; and a lozenge box in the form of a violin, in iron, of the time of Louis XIII.

There were four nail-violins in the preſent claſs, two of which had ſympathetic ſtrings of very thin braſs wire. Furthermore, the following are noteworthy:—A metronome made by James Concliffe, Liverpool, 1798; a metronome made by Pridgen, York, eighteenth century; two old tuning forks, one of which is ſaid to have belonged to Handel; an old Æolian harp of peculiar conſtruction; an Engliſh monochord of the eighteenth century, uſed for tuning the harpſichord; &c.

This may be the place to notice ſome illuſtrations of muſical inſtruments. The Liceo Comunale di Muſica, at Bologna poſſeſſes above fifty inſtruments, and it contributed to the Exhibition photographs of thirty-five of them. The moſt remarkable ones are:—An Italian cither (*cetera*) of the beginning of the ſixteenth century.—An archlute (*arciliuto*), with the inſcription, "Hieronymus Brenſius Bonon."—A *chitarrone*, "In Padova Uvendelio Veneto, 1609."—A *chitarrone*, "Matteo Selles alla Corona in Venitia, 1639." A theorbo, "Hans Frei in Bologna, 1597."—A lute, "Magno Stegher in Venetia."—A lute, "Magno Dieffopruchar a Venetia, 1612." This lute has fourteen tuning-pegs, and the ſtrings are arranged in ſeven pairs, each pair being tuned in uniſon. The maker evidently belonged to the Tieffenbrucker family alluded to above, page 322.—Several marine trumpets, one of which bears the inſcription, "Pieter Rombouts, Amſterdam 17 . ." The marine trumpet (*tromba marina*) is a ſtringed inſtrument played with a bow. Owing to a peculiar conſtruction of the bridge its ſingle ſtring produces a ſound reſembling that of the trumpet. The old German name for the marine trumpet is *Trumbſcheit*. This inſtrument was about ſeven feet long, and very narrow; its ſtring was thick, and the performer did not preſs it down, but touched it lightly with his finger to produce the harmonics.—A *viola da braccio*, "Hieronymus Brenſius Bonon."—A *viola da gamba*, "Antonius Bononienſis."—A *ſordino*, "Baptiſta Breſſano," ſuppoſed to date from the end of the fifteenth century; its ſhape is peculiar, ſomewhat reſembling that of the *machête*, repreſenting a fiſh; it has four ſtrings.—A violin, "Carolus Tononi fecit, Bononiæ [Bologna] 1717," the head of which reſembles that of a cither-viol.—A *viola d'amore*, "Mattias Grieſſer, Lauten- und Geigenmacher in Inſbrugg, anno 1727."—Two curious old harps.—An old tenor flute meaſuring in length about three feet.—An *oboe da caccia*.—Some curious double flutes.—*Cornetti*, or *zinken*, of different dimenſions.—An *archicembalo*. This

is a kind of harpſichord with four rows of keys, made after the invention of Nicola Vicentino, and deſcribed in his work, 'L'Antica Muſica ridotta alla moderna prattica,' Rome, 1555. The compaſs of this archicembalo compriſes only four octaves, but each octave is divided into thirty-one intervals, forming in all 124 keys. It was made by Vito Traſuntino, a Venetian, who lived towards the end of the ſixteenth century, and who added a *Tetracordo* to it, to facilitate the tuning of its minute intervals. However, the archicembalo was probably not the firſt inſtrument of the harpſichord kind which contained an enharmonic arrangement of intervals. The clavicymbalum perfectum, alſo called univerſalclavicymbel, which Prætorius ſtates he ſaw in Prague, and which was likewiſe of the ſixteenth century, was of a ſimilar conſtruction. Later we find the ſubdiviſion alſo applied to the ſquare pianoforte. There is ſuch a pianoforte ſtill extant which was made by J. Zumpe in London, in the year 1766.

One of the moſt ſingular inſtruments in the collection of the Liceo Comunale di Muſica, at Bologna, is the *cornamuſa*, which conſiſts of five pipes inſerted into a croſs-tube through which they are ſounded. Four of the pipes ſerve as drones, and the fifth, which is the largeſt, is provided with finger-holes, like the chanter of a bagpipe. The inſtrument has, however, no bag, although it is probably the predeceſſor of the ſpecies of bagpipe called *cornamuſa*, and moſt likely had reeds. An illuſtration of a *cornamuſa* of this deſcription may be found in the 'Muſurgia,' by Athanaſius Kircher, Rome, 1750.

CLASS VIII.

Ethnological Section.

The ſo-called Ethnological Section was amply ſupplied with curious contrivances from all parts of the world. Moſt of them were probably made in the preſent century. They are, however, preciſely ſimilar to thoſe which have been in uſe for centuries with the nations or tribes to which they appertain.

Her Majeſty the Queen contributed largely to this Claſs. There were about forty extra-European inſtruments from Windſor Caſtle.

The great variety of the muſical inſtruments of the Hindus was well illuſtrated by a ſelection from the ſpecimens belonging to the Eaſt India Muſeum in London, and lent by authority of his Grace the Secretary of State for India.

Unfortunately many of theſe quaint-looking objects are conſtructed of materials ſo fragile that they are eaſily injured. It is not often that

one ſees a muſical inſtrument from Hinduſtan in a perfectly ſound condition.

As regards the braſs wind inſtruments of the Hindus and Burmeſe, twiſted like ſerpents and other reptiles, it is ſaid that in the beginning of the preſent century ſome London inſtrument makers took to manufacturing ſuch groteſque-looking trumpets for exportation to the Eaſt. In order to meet the taſte of the intended purchaſers, they made theſe articles exactly after Aſiatic patterns; it is, therefore, not impoſſible that among the braſs wind inſtruments brought from Aſia to England, and exhibited as Eaſtern curioſities, there may be occaſionally a ſpecimen whoſe real birthplace is in the neighbourhood of its preſent abode.

The Ethnological Section contained alſo groteſquely-ſhaped negro inſtruments, ſome of which were "adorned" with human ſkulls and jaw-bones; Polyneſian noſe-flutes; and other ſuch fanciful conceptions of unciviliſed nations.

Several of the ſtringed inſtruments exhibited in this Claſs had been altered, evidently with the intention of improving them, and of adapting them to European uſe. Ethnologically, ſuch an altered inſtrument poſſeſſes no intereſt, and muſically it does not come up to the European model in imitation of which it has been reconſtructed.

A more detailed record of the contents of Claſs VIII. is hardly required here, conſidering that the Ethnological Section was of ſecondary importance in the Special Exhibition of Ancient Muſical Inſtruments.

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